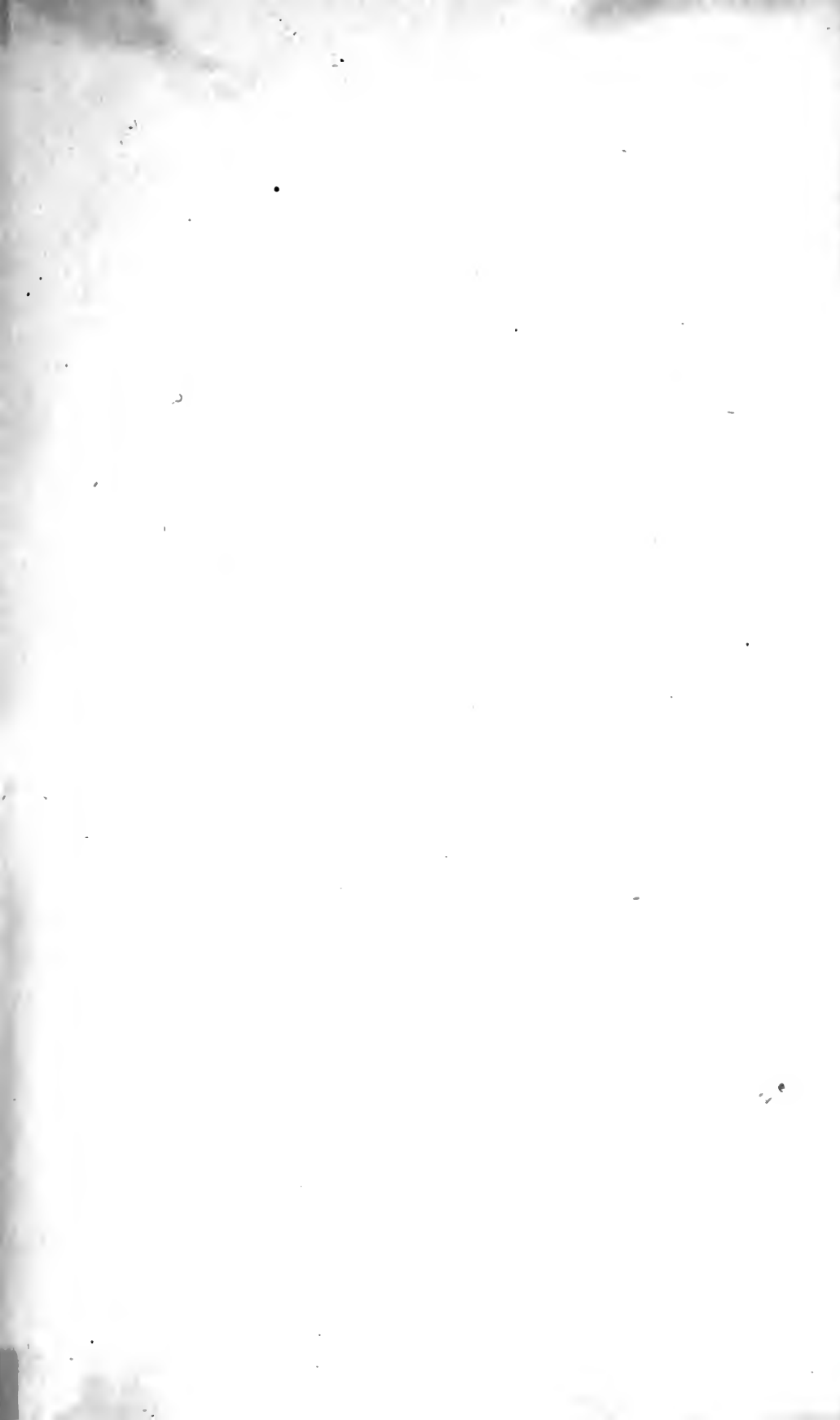


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ARGENTINA • BOLIVIA • BRAZIL • CHILE • COLOMBIA • COSTA RICA • CUBA • DOMINICAN REPUBLIC • ECUADOR • GUATEMALA • HAITI
JULY 1916

BULLETIN OF THE PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁNES, ASSISTANT DIRECTOR.



VIEW OF MARACAIBO, VENEZUELA

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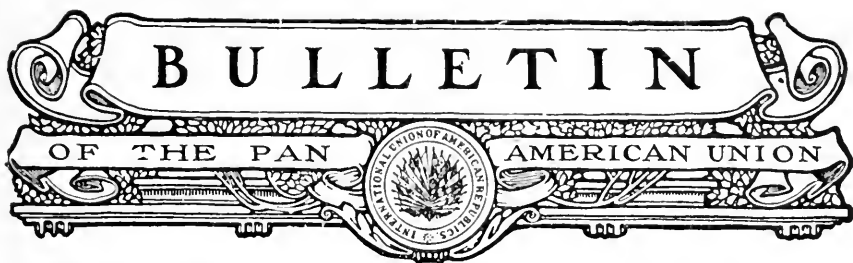
¹ Absent.



Photo by American Photo Co.

THE MACEO MONUMENT, HABANA, CUBA.

On May 20, 1916, the Cuban people celebrated the fourteenth anniversary of the day upon which was established their complete autonomy. In Habana the chief feature of the celebration was the unveiling of the Maceo monument, erected in honor of one of Cuba's greatest heroes, Antonio Maceo. The monument, designed and executed by the Italian sculptor, Domenico Boni, is said to be one of his most artistic work. It consists of a large bronze equestrian statue of Gen. Maceo, mounted on a splendid marble column bearing the inscription and ornamented by the bronze figure of a Winged Victory attended by her supporters—Duty, Patriotism, Action, Sacrifice, and Thought. The base is ornamented by a number of symbolic figures in bronze.



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No. 1

RESULTS OF MEETING OF INTERNATIONAL HIGH COMMISSION IN
BUENOS AIRES.

PLANS for vigorously and effectively carrying forward the work of the International High Commission were made by Secretary McAdoo and the other members of the central executive council and the United States section of the commission at a meeting held in Washington June 15.

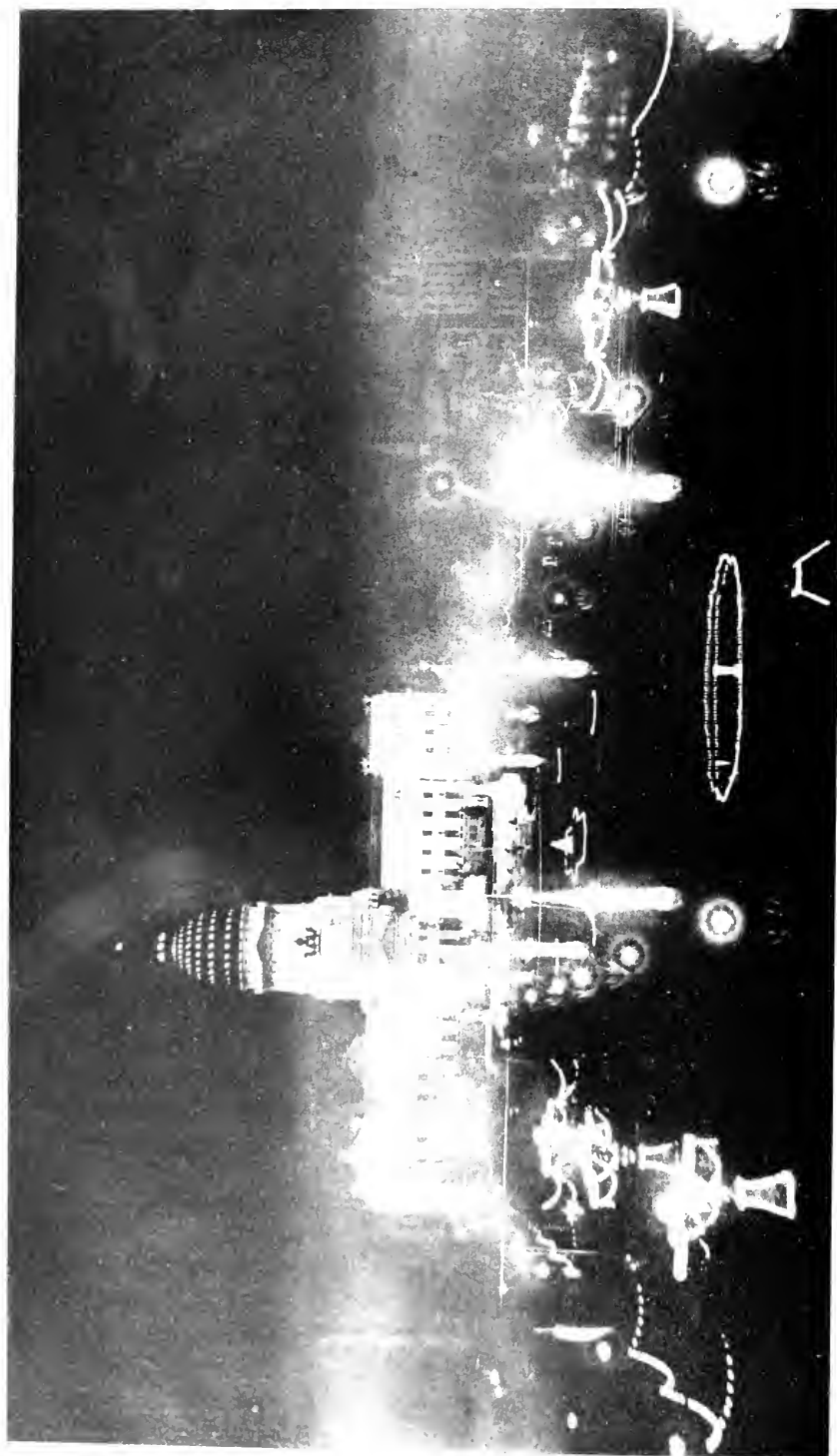
This was the first meeting of the central executive council, which was created at the Buenos Aires meeting of the commission in April. The commission has a section in each American Republic, and the central executive council represents the governing authority to keep in touch with the various sections and direct the general work.

Secretary McAdoo is president of the council, Prof. John Bassett Moore is vice president, and Dr. Leo S. Rowe is secretary general.

In addition to the above mentioned, the meeting of the United States section of the commission was attended by the following members: Senator Duncan U. Fletcher; Andrew J. Peters, Assistant Secretary of the Treasury; Paul M. Warburg, member of the Federal Reserve Board; John H. Fahey, of Boston.

The council and the United States section reviewed the important achievements of the Buenos Aires conference and resolved that no effort should be spared to obtain practical results in strengthening the financial and commercial relations of the American Republics and in bringing about uniformity of legislation in matters affecting Pan American trade and commerce.

It was decided to take up immediately with the State Department the question of negotiating treaties with the Republics of Latin America for the creation of gold trust funds between the different American countries, similar in some respects to the gold settlement fund maintained by the Federal reserve banks at Washington and administered by the Federal Reserve Board. Such international gold trust funds would prove of the greatest convenience and assistance to commerce in connection with exchanges, saving unnecessary



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CELEBRATING THE CENTENARY OF ARGENTINE INDEPENDENCE.

The above picture shows the capitol and plaza in Buenos Aires, illuminated by searchlights in honor of the celebration of the 100th anniversary of the declaration of independence on the night of July 9th, 1916. It was just 100 years ago that the National Constituent Congress assembled in a little building in Tucuman for the purpose of adopting and signing the historic document which gave birth to the Argentine nation. The Congress had assembled on March 24, 1816, and after 33 months of deliberation drafted the Declaration of Independence, which every delegate signed on the day of adjournment July 9. Over four years prior to this event, however (May 25, 1810), the last Spanish Viceroy, Caceres, had been deposed by the patriots of Buenos Aires and a provisional directory had assumed the reins of power and continued its functions until the formal Declaration of Independence paved the way for the establishment of a republican form of government, the adoption of the constitution, and the election of the officials of the executive, legislative, and judicial branches. May 25th was therefore also made a national holiday.

transfers of gold in settlement of balances, with all the attendant loss and expense.

In working out the plan for gold trust funds, the unit of money of account equaling one-fifth of the American gold dollar, which was approved at the Buenos Aires meeting as a standard for the American Republics, will be of great value. If this unit is adopted by the various countries as a standard money of account, it will provide a uniform basis for transactions between all of the countries of Latin America and of North America, and also will offer a basis likely to be adopted for the actual coinage of gold by the various countries as they find themselves able to put into effect a gold currency system of their own.

The council also decided to undertake, through the State Department, the negotiation of treaties to facilitate the work of commercial travelers and to abolish license fees which now exist in many countries, as well as the numerous onerous restrictions upon the admission and circulation of samples of American goods. If these treaties can be negotiated, it will be a great accomplishment in the promotion of financial and commercial relations between the United States and Latin America.

The United States section of the commission will also recommend to Postmaster General Burleson that steps be taken to provide for the representation of the United States at the proposed postal conference to be held in Montevideo, in accordance with the recommendation of the International High Commission.

Secretary McAdoo has already made plans to put into effect at once the recommendations of the Buenos Aires Conference with reference to the uniform nomenclature of classification of merchandise for the purpose of commercial statistics, and in this relation will utilize the standard monetary unit of account. Illustrating the progress made, this plan will be put in force by the Secretary in connection with the statistics for the calendar year 1916, and will afford means of intelligent comparison with similar statistics in the other Latin American countries which will adopt the uniform nomenclature approved by the Buenos Aires Conference.

The central executive council and the commission will recommend to the Secretary of State that steps be taken for the adoption by the United States and the various countries of Latin America of the resolutions on customs modification, including the model consular invoice, agreed upon in 1910. Only a few countries have ratified the resolutions, and their ratification by the remaining countries of the Western Hemisphere will greatly facilitate the transaction of business among them and simplify customs procedure.

The council will also take up the question, through the State Department, of securing ratification of the important patent, trade-

mark, and copyright conventions of 1910 and the pecuniary claims convention of the same year.

With reference to the question of extension of the arbitration of commercial disputes between citizens of the Pan American countries through their respective commercial bodies, which was approved by the Buenos Aires meeting, the council will take up with the Chamber of Commerce of the United States the important problem of securing the favorable action by other chambers of commerce than that of Buenos Aires with which such an agreement is now in working order. The National Chamber of Commerce of Uruguay has already announced its intention to enter into such a convention with the United States Chamber of Commerce.

While, of course, these arrangements are of an unofficial character and between commercial bodies, the Chamber of Commerce of the United States will receive the cooperation of the central executive council in perfecting the arrangements.

RESOLUTION ADOPTED BY THE MISSOURI BANKERS' ASSOCIATION.

The Pan American Union has received a letter from W. F. Keyser, secretary of the Missouri Bankers' Association, inclosing a copy of the following resolution unanimously adopted by the Missouri Bankers' Association at its convention assembled in St. Louis on May 24, following an address delivered by the Director General upon the topic of "Pan Americanism and what it means to the Central West of the United States":

Whereas the Missouri Bankers' Association appreciates the great importance of the work of the Pan American Union, both in fostering and cementing closer international relations among the different Governments of the American Continent, and also the practical value of such work to the business interests of the United States as a whole, and the Middle West in particular; Therefore be it

Resolved, That this association hereby heartily indorses the aims of the organization named and approves the idea of their further prosecution and enlargement.

In view of the fact that this organization is one of the largest and most powerful of its kind in the United States, and that this resolution was passed entirely upon the initiative of the association, it has a special significance which will be gratifying to all those who watch with satisfaction the growth throughout the United States of interest in the relations of that country with its sister American Republics.

TRANSOCEAN FINANCE AND COMMERCE CORPORATION.

A New York organization for the purpose of initiating and promoting financial relations with the Republics of Latin America has recently been incorporated under the name of the Transocean Finance and Commerce Corporation. Heading the enterprise as its officers



PRESIDENT FORBES, OF PANAMA, DELIVERING AN ADDRESS AT THE INAUGURATION OF THE CHIRIQUI RAILROAD, AT DAVID, CAPITAL OF CHIRIQUI, APRIL 22, 1906.

The official inauguration of this first national railway of Panama took place April 22-23, 1906, and was marked by memorable celebrations and impressive ceremonies. The President, cabinet officials, diplomatic officers, and high Government officials traveled from Panama to David to participate in the event. A trip over the entire line was made and the various bridges, shops, and auxiliary public works were inspected. On the night of the 23th Mr. R. W. Hebard, of the constructing firm, tendered a banquet to the President and cabinet, and this was followed by a State ball given by the people of the Chiriqui to these distinguished officials.

are men well known in financial circles of the United States and intimately acquainted with conditions in the countries where they plan to operate. The corporation proposes to assist the countries to the south in solving arising financial problems and to develop its business along the lines adopted by European banking houses. As part of the business operations it is proposed to make advances on crops and products, to place mortgages on real property, to negotiate Government transactions and contracts, and to aid in developing mining, electrical and hydraulic opportunities, as well as railroad construction. Among the officials of the corporation, which has its headquarters at 63 Wall Street, New York City, are Frank B. Wiborg, president; John Adams Dix, Theodore May, and Sidney W. Fish.

TO TEACH PORTUGUESE AT ILLINOIS UNIVERSITY.

Announcement has been made by the University of Illinois, of Urbana, Ill., that the department of Romance languages will offer courses in Portuguese during the coming academic year. A native of Portugal has been appointed instructor, and the hope is expressed that there may be as much interest shown in this language as there is in the Spanish classes. While the latter is taught in a majority of leading college and universities, the number of institutions offering the Portuguese language is yet small, but it is encouraging to note that the growth is gradual and steady.

DEPARTMENT OF TROPICAL FORESTRY AT YALE.

A special department for instruction and research in tropical forestry has recently been initiated by the Yale School of Forestry. As far as can be ascertained this is the first professional institution to establish a regular course in this branch of study, and it is planned to even organize field parties to conduct the researches in the forest lands of South and Central America. The field of tropical forestry is almost untouched, and as there are growing intimations that the vast forest lands, both State and National, of these tropic countries are to be developed, the training of young men for a thorough and technical knowledge of forestry to enable them to place this science on a permanent basis in these countries has become a necessity. According to the present requirements of the school, a student must have completed at least three years of collegiate work to become a candidate for the degree of Master of Forestry. Special students, not candidates for the degree, will be admitted with less scholastic preparation. Further particulars and a descriptive catalogue covering this department may be obtained by application to the Yale School of Forestry, New Haven, Conn.

EFFECT OF THE EUROPEAN WAR ON ARGENTINE FOREIGN SHIPPING.

The tonnage of foreign vessels, entrances and clearances, entering the ports of Argentina for the year 1913, just prior to the European war, was 27,007,000 metric tons. In 1915 this tonnage had fallen to 18,866,000 tons, a loss in shipping of 8,141,000 tons. In 1913, 24,811,000 tons of the total tonnage, or nearly 92 per cent thereof, was under the flags of the now belligerent countries, namely, the United Kingdom, Germany, Austria, France, Italy, and Belgium. In 1915 the tonnage under these flags represented 13,304,000 tons, or 70 per cent of the tonnage for that year. The net loss of vessels under the belligerent flags was 11,507,000 tons. As an offset to this there was an increase in tonnage under flags of neutral countries of 3,484,000 tons. The largest increase, amounting to over a million, was in vessels under the Dutch flag, the next largest under the Norwegian, the third under the Greek, and the fourth under the United States flag. The increase under the United States flag, however, represented a larger percentage of increase than that under any of the other flags—an increase from 27,000 tons to nearly 500,000. The following table shows the tonnage for the two years under comparison, the increase, and the decrease:

[000 omitted.]

Nationalities.	1913	1915	Increase, 1915.	Decrease, 1915.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
United Kingdom.....	18,433	11,094	.....	7,339
Germany.....	2,840	16	.....	2,824
Austria-Hungary.....	565	2	.....	563
France.....	1,182	775	.....	407
Italy.....	1,444	1,148	.....	296
Belgium.....	347	269	.....	78
Netherlands.....	446	1,494	1,048	.....
Norway.....	498	1,023	525	.....
Greece.....	74	556	482	.....
Spain.....	430	755	325	.....
Sweden.....	114	327	213	.....
Portugal.....	3	3	.....	.....
Denmark.....	130	188	58	.....
Russia.....	44	71	27	.....
United States.....	27	499	472	.....
Uruguay.....	127	343	216	.....
Paraguay.....	.....	74	74	.....
Brazil.....	65	106	41	.....
Chile.....	108	111	3	.....
Other.....	130	12	.....	118
Total.....	27,007	18,866	3,484	11,625

THE SIGNIFICANCE OF A PAN AMERICAN POLICY.

Hon. William G. McAdoo, Secretary of the Treasury, delivered the commencement address at the graduation exercises of the University of North Carolina, at Chapel Hill, on May 31, 1916, choosing as his subject "The Significance of a Pan American Policy."

After a few appropriate remarks on the importance of an enlightened public opinion concerning the relations with the countries of Central and South America, and on the intellectual sympathy mani-



Courtesy of Bureau of Commercial Economics.

GIANT WREATH DECORATING THE WASHINGTON MONUMENT.

In the United States May 30 has been made a national holiday, known as Decoration Day, in honor of the men of the United States Army and Navy who fought in defense of the Union during the Civil War. The graves of the dead soldiers and sailors in all national and private cemeteries in the country are decorated with flowers and American flags with appropriate attending ceremonies. In Washington, D. C., the exercises of the day were this year concluded in the evening by an exhibition of moving pictures showing the beautiful scene of the various national parks and reservations in the country. The Washington Monument, a shaft 555 feet high and 55 feet square at the base, served as the support for the huge wreath, inclosed in a wreath 31 feet in diameter, made of spruce and hung with laurel rope. Thou- and of spectators gathered on the slope in front of the great monument to view these remarkable pictures of the picturesque wonders of their own country, and when the picture of George Washington was thrown on the screen gave vent to their patriotic enthusiasm in prolonged cheers.

fested during the recent Pan American Scientific Congress. Secretary McAdoo said:

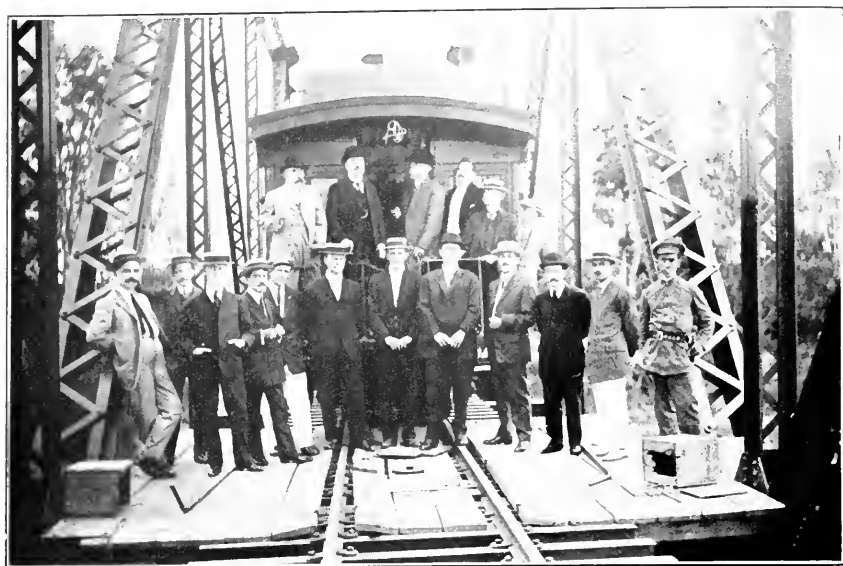
During the last quarter century we have seen revived in the United States a remarkable consciousness of a position our Government took over 90 years ago. To men of the present generation the Monroe doctrine is a familiar phrase, and you have a notion, more or less clear, of what it means. You associate it, and most of us have become accustomed to associate it, with a settled policy upon the part of our Government to discourage any explicit or implicit policy on the part of a non-American State to extend its political system, or even such elements of control as would in fact constitute an extension of its political system, to territory within this hemisphere. That is the great central feature as we understand it of the Monroe doctrine, and we do not intend that in its essence that doctrine shall be changed. Europe, or, more accurately, the world outside of the American Hemisphere, has acquiesced in that principle.

Within these last 20 years there have come a succession of incidents which have borne home upon our people more and more the necessity of taking serious thought as to what was meant originally by the Monroe doctrine, and what it has meant since, and *what, in short, must be the basis of our relation with the Republics to the south.* It is not my purpose to burden you with an academic discussion of the political theory with which one must necessarily deal in discussing the various aspects of the Monroe doctrine, because my recent visit to South America has destroyed any academic notions I may have entertained about the position of the Latin American States in recent years. The wealth and solidity of those nations, their thriving industry and evident prosperity, the splendid contributions of their thinkers and reformers to the solution of the world's most pressing social problems, the unmistakable evidence that there is being created in South America a middle class with high standards of living and excellent balance and judgment in public matters, comparing favorably with any in the world, their rich, ancient, and homogeneous civilization—all these have impressed me too deeply to speculate upon theoretical inferences from the principle that has guided our relations with South America.

What one or another theorist may say as to the danger to Latin America from the Monroe doctrine or from the wealth and power of the United States is no longer of interest when one thinks of what Latin America actually signifies to-day. It has taken its place in the councils of the world; its good opinion is diligently sought at this very time by both sides in the European struggle; and while in 1899 Latin America was generally ignored in the calling of the First Hague Conference, in 1907 nearly all the Republics were invited to send representatives. The larger and wealthier among them had long before achieved a distinct position in the world's affairs; but what is more important all South America had achieved an individuality, had risen above a mere geographical expression to signify a living, creative force. * * *

The Secretary then pointed out the part this country had taken in that evolutionary progress and outlined the series of international conferences which culminated in the Fourth Pan American Conference at Buenos Aires in 1910. Continuing, he said:

No doubt could remain, and I am happy to say that practically no doubt does remain, in the Latin American world that we have sought to treat all the Governments of America on a basis of equality and cooperation. We have looked with sincere gratification upon the emergence of individual States into positions of economic and political eminence, just as we look with equal satisfaction and serenity upon the evident desire of the Latin American world to share with us upon terms of equality the responsibilities and the glories of maintaining the highest principles that have guided us all in creating organized government in this hemisphere.



A NEW DRAWBRIDGE OVER THE CAUCA RIVER IN COLOMBIA.

Upper: Showing group of officials of the Colombian Government and officers of the railroad when the bridge was officially turned over to the Pacific Railway Co. by the United States contractors who built it. Lower: Showing the draw of the bridge turned to permit the passage of vessels on the Cauca.

But not content with an honorable, traditional policy and a genuine national satisfaction in the friendship of the American Republics, we have now deliberately set ourselves to give the most solemn expression of it all to the entire world. There have been 90 years of reaffirmation on our part of the principle of the American Hemisphere dedicated to representative government and international peace; and these generations have shown us that we are ready now for something greater and more impressive and more inspiring. Under the lofty leadership of a man, endowed not only with the serene vision of the historian intimately acquainted with the forces that have shaped our development but with a combination of well-balanced judgment and creative statesmanship, we have proposed to enter a solemn pact with all the Republics of America for the mutual guaranty of the integrity of all. Not merely territorial integrity have we thought to include, but, as well, that of institutions and that of the national spirit. The self-confidence and self-respect of the American peoples is as important as one or another bit of their lands. We have said in effect to the world that spiritually these Republics are united, that they are devoted to the ideals of international honor and peace, that they are prepared to act together without hesitation in maintaining those ideals effectively in this hemisphere, and that they have consecrated their best efforts to the spreading and strengthening of these ideals until the entire world shall come to accept them.

The Secretary then discussed the economic and financial relations of the United States with Latin America, the abnormal conditions suddenly brought about by the "prodigious European calamity," and referred to the memorable Pan American Financial Congress which it was his "happy privilege" to call in order to consider economic questions of common interest. Speaking of the results of this gathering, Mr. McAdoo told of the creation of the International High Commission, and made the following statement concerning the first general meeting of the commission on April 3, 1916, at Buenos Aires:

With gratifying ardor the distinguished body of delegates representing 20 Republics addressed themselves to the consideration of projects presented for the improvement of our various national laws or in our several commercial and financial policies. The program was a truly formidable one, embracing 13 different subjects, many of which were large enough and complex enough to serve as the subject matter for an entire conference. Yet, in spite of that, the conference worked with such unity of purpose and brought to its task such a wealth of experience and knowledge and constructive genius that it was able to present a body of resolutions for the consideration of the various Governments that will not fail to stimulate a genuine wave of enthusiasm for the cause of progressive and enlightened commercial legislation in the American Republics. In some cases these recommendations involved the breaking of new ground; while in others a secure structure is raised upon the foundations so patiently laid in previous international gatherings on our continent. * * *

The Secretary referred to the international cooperation which characterizes the foreign policy of the United States as being the logical development of the principles and motives that guided President Monroe and his advisers in the formulation of the Monroe doctrine. On this point he further said:

We were then interested in preventing the forcible subjection of the revolted colonies and their return to a condition of political dependence. Every American must be proud of the fact that it was the privilege of his country to contribute toward the maintenance of the independence of our sister Republics. The fact that they were

able to secure this independence for themselves does not detract from the service which we were able to render to them in their hour of need.

With political independence established as a definite and final fact, the next step in the progressive development of our sister Republics is to secure a larger measure of economic and financial independence. The suffering to which many of them have been subjected by reason of the European war indicates the importance of this next step in their national development. From whatever point of view we approach the situation it is an inspiring fact that our interests are entirely in harmony with theirs. The people of the United States, deeply interested in their own economic, financial, and social progress, are anxious to see every nation of Latin America move forward in precisely the same direction. The Pan American Financial Conference of 1915 and the recent sessions of the International High Commission have demonstrated the ability and the willingness of the peoples of the American continent to assist one another in the development of their marvelous natural resources. In this great forward movement of continental progress the United States claims no position of privilege and fully realizes that the real mission of the Americas can best be fulfilled when every country is contributing its due share to the progress of the entire continent.

In conclusion, Secretary McAdoo declared that the Monroe doctrine has now become continental not merely in scope but in the support it received, and emphasized the fact in the following concluding paragraphs:

We can now well afford to discard the original name and look upon it as a policy of all the Americas, destined not merely to maintain their political independence but gradually to secure for them that measure of economic and financial self-sufficiency which is the logical and necessary accompaniment of political independence. In the attainment of these great ends we must, with each year, lay increasing emphasis on that spirit of international cooperation and mutual helpfulness which was the keynote of the Pan American Financial Conference of 1915, and which is now the watchword of American policy.

I am most anxious that you should see the full significance of this movement. It means that the Americas are sounding a new note in international policy; that they have not only begun to see but are acting upon the principle that the welfare of each depends upon the prosperity of all. It is your duty, as well as mine, to hold high and unassailable this new concept of international relations. By so doing we will be performing a service to our own country, to the American Continent, and to the civilized world.

UNITED STATES RETURN VISIT COMMITTEE TO BRAZIL.

The Return Visit Committee to Brazil, of the Pan American Financial Conference, is to leave the United States on the steamer *Vestris* on July 29. It is to arrive in Rio de Janeiro on the 15th of August, leaving that city for New York on the 12th of September by the same steamer. Among the members will be Dr. R. P. Strong, Vice President of the American International Corporation; Mr. Frederico Lage, of the firm of William Morris Imbrie & Co. of New York; Mr. Charles Lyon Chandler, South American Agent of the Southern Railway Co., Chattanooga, Tenn.; Mr. Henry C. Ulen, President of the Ulen Contracting Co., Chicago; Mr. W. C. Downs, Commercial Attaché of the United States Embassy at Rio de Janeiro; Mr. Louis R. Gray, of the firm of Arbuckle Bros.

NAVIGATION ON SOUTH AMERICAN RIVERS

THE little steamer is the *Ibera*; she makes the round trip from Posados to the head of steam navigation on the Alto Paraná in eight or ten days. Somewhere back in Brazilian jungles the stream is formed, and after flowing for unknown leagues plunges over the precipice of Guayra, and thereafter becomes a navigable artery for small steamers to its junction with the Plata system at Corrientes, a distance of many miles.

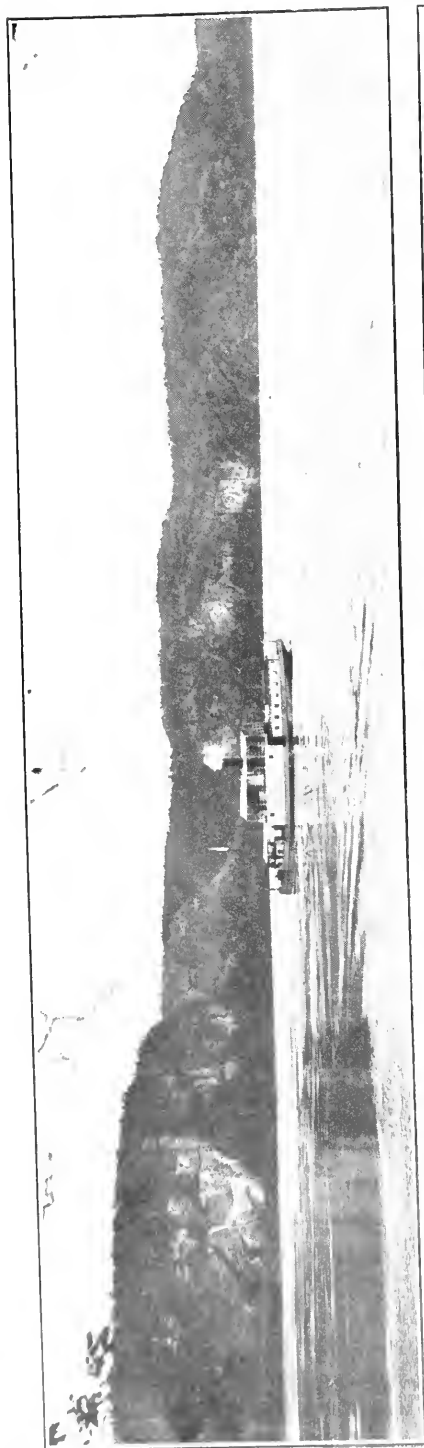
The captain of the boat is an Argentine; the crew, consisting of Brazilians, Paraguayans, and Argentines, numbers about 20 persons; the passenger list is not large and many more could be carried. On the list is an Englishman, a Paraguayan yerba maté planter, a Brazilian customs officer, an Argentine photographer, an Italian lumberman returning to his forest home, several Argentine traders, and two Americans.

The first day out from Posados, uneventful, draws to a close; the little steamer seeks a placid cove and makes fast to near-by trees. The boatmen are put to work carrying wood from the forest pile to the boat, for the latter is propelled by a wood-burning engine. Even on the river boat in the forest the South American custom of late evening meals is observed; 8 o'clock is the dinner hour. The menu consists of a stew called "puchero," mutton (slaughtered aboard), excellent fish, mandioca, beans, potatoes, bread and "hard tack," Paraguayan oranges, coffee, Mendoza wine; abundance of food and sufficiently nourishing to satisfy the traveler who realizes his whereabouts.

The tropical darkness comes quickly; a few guards are placed about the boat, the captain and several passengers start the card game, the stranger wanders around and around the little deck listening to the mournful melody of the forest—truly a weird and interesting experience. Animals and insects seem to have utilized the darkness in which to come to the river to slake their thirst. The few lights aboard the steamer draw the mosquitoes and all their kindred; woe unto the traveler who has not provided double netting and a supply of "Bufach," for the latter smoulders within the cabin and drives away the pests that even manage to squeeze through the net.

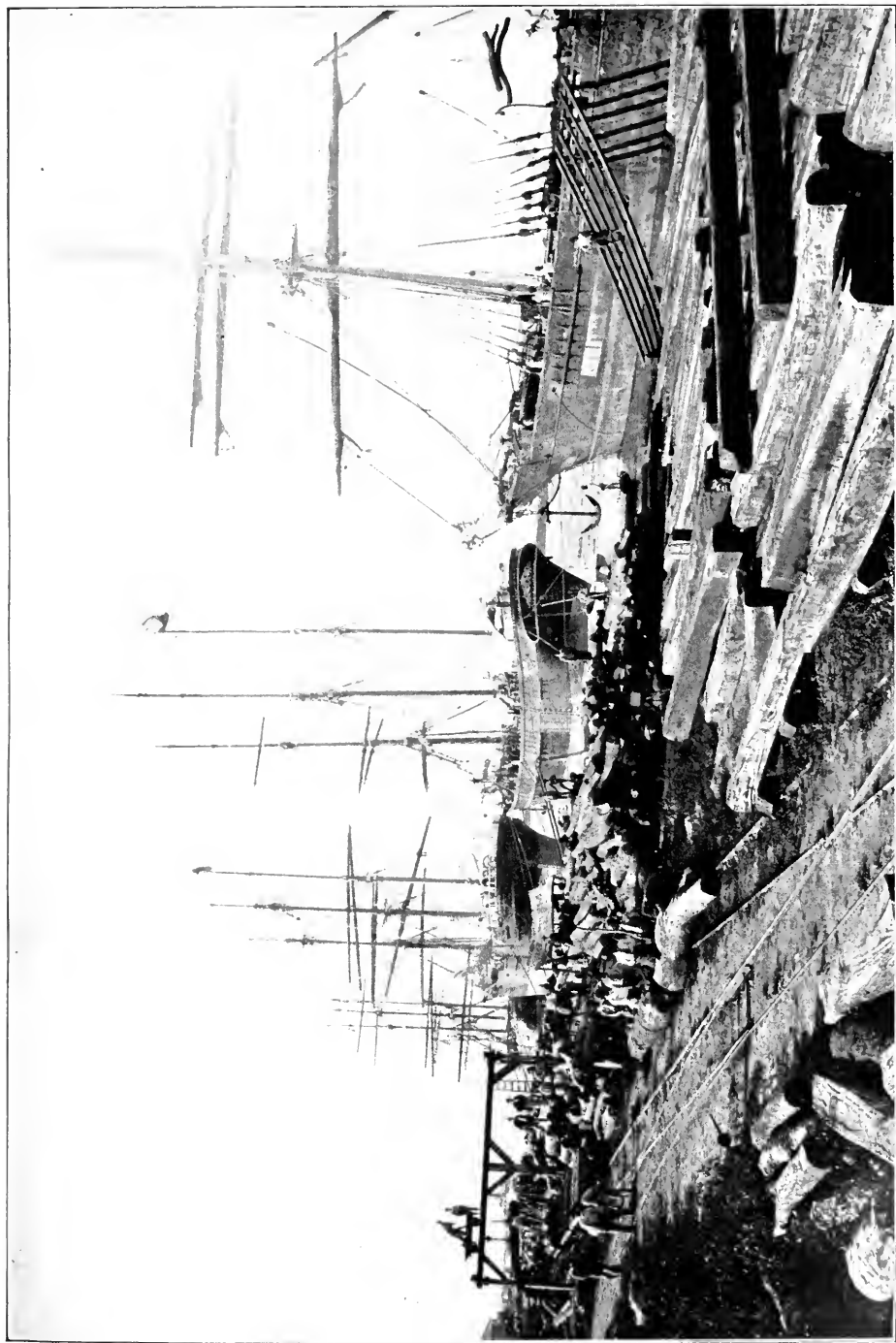
At the break of day the little steamer is again on her course, crossing and recrossing the treacherous currents for which the river is noted. Thus, day by day we follow the winding course, admiring the ever-

¹ By William A. Reid, Pan American Union Staff.



SCENES ON THE ALTO PARANA.

Upper: One of the little steamers that plies between Posados and the head of navigation on this river; the wooded shore of Paraguay. Lower: The Alto Parana at Posados and a glimpse of its shipping activity.



BUSINESS ACTIVITY ON THE PARANA.

The foreground shows many Argentine quebracho logs assembled on the river front for transportation to world markets. The background depicts the class of ships engaged in the lumber trade. More capital could greatly develop this important industry.



COLONIA, URUGUAY.

This thriving little city is situated on the Plata River opposite Buenos Aires; the river here is about 30 miles wide and up and down the great watercourse pass the ships of all nations. Colonia is also connected with Montevideo by rail, a distance of 150 miles.

changing views of solitudes, and occasionally going ashore at the break in the forest where man is gradually fighting nature's growth with his diminutive sawmill or "yerbales" (plots where yerba maté is grown).

Such is the average steamboat and also a few of the many experiences that usually meet those who follow South American rivers to interior and less developed regions—experiences that bring forcibly to mind the vast and inviting possibilities of sections of the world just awakening to modern commerce.

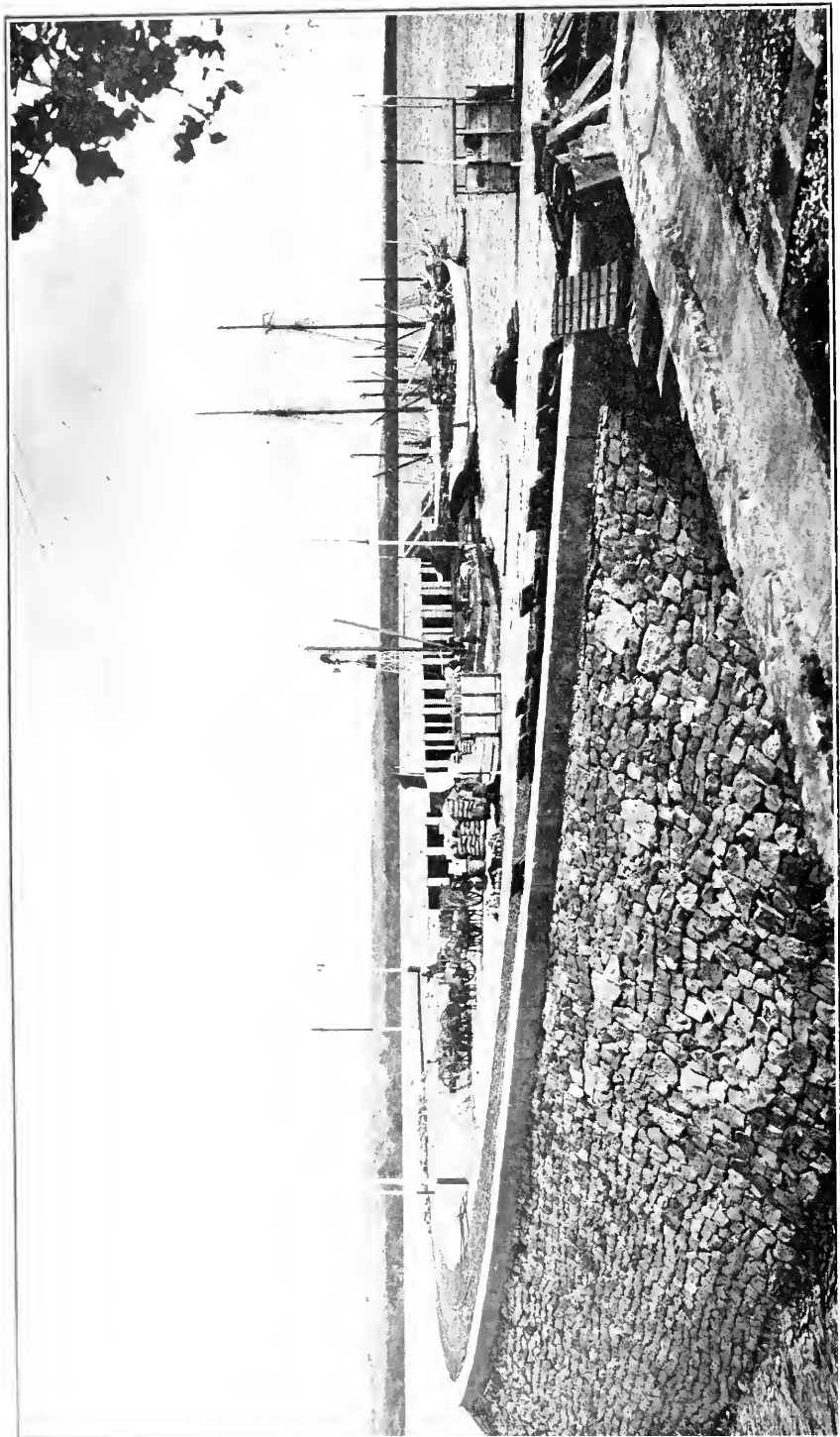
Of the six continents South America is probably the best watered as regards the distribution of great navigable rivers and streams; at the same time nature has made certain areas so vast and barren that even the giant condor in dizzy Andean heights is sometimes found dying from thirst or lack of food.

So numerous are the rivers that have their share in bearing the products of the forest to the markets of the world or of transporting manufactured goods to interior regions that we shall have space to mention only a few of the larger water arteries—arteries in which the average tourist or man of commerce may be interested; the former in learning of what he may expect in the way of traveling facilities and possible comforts, and the latter, shipping services that are to carry his goods to markets far beyond beaten courses.

New York to Iquitos without change of ships! New York to Corumba with only two changes! How many readers not in close touch with ships and shipping can locate mentally or otherwise such places as Iquitos and Corumbá? Where are they? Both are jungle towns far away from the busy din of what we call modern life; yet these places have gradually grown to commercial importance, and corporations have found it necessary to place New York in direct communication with the former and in semidirect contact with the latter. So to-day we go aboard ship amid the pulsating activities of a great metropolis and, without change of vessels, disembark more than 2,300 miles up the Amazon River in Peru. If the mission of the traveler leads to the far-away settlement on the Paraguay, two changes of steamers after leaving New York will be necessary; at Buenos Aires and Asuncion, respectively. Corumbá lies nearly as far up the Plata system as does Iquitos up the Amazon; and if one seeks still closer acquaintance with nature and her wildfastnesses a journey to either place provides inviting opportunities.

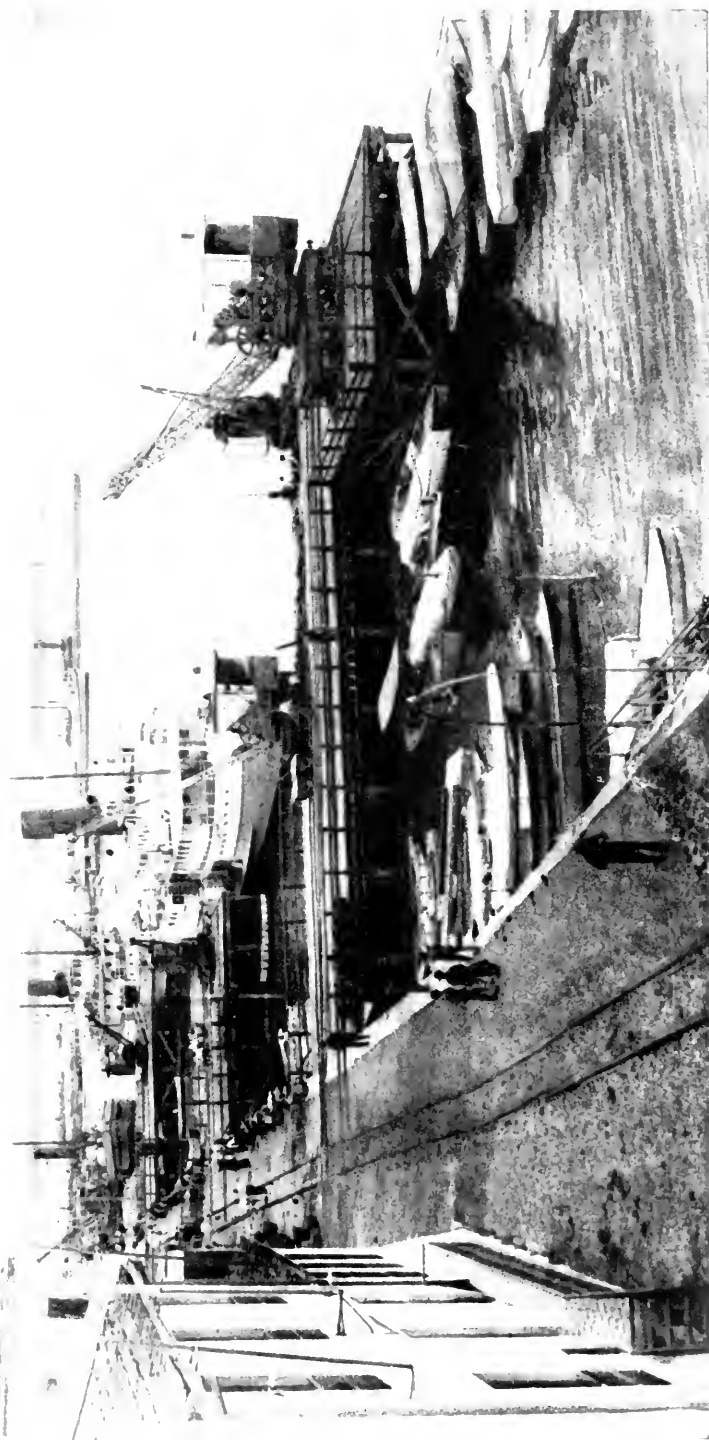
In about 60 days the native in his canoe may float down to Para on the current of the Amazon from the primeval forest more than 2,000 miles up the river; he may then put up sail and nature will assist in taking him home, for, as in the days of Columbus, the winds still come from the east; or, to use the translated words of the great navigator:

And the winds blew strong from the east and bore us over to the west.



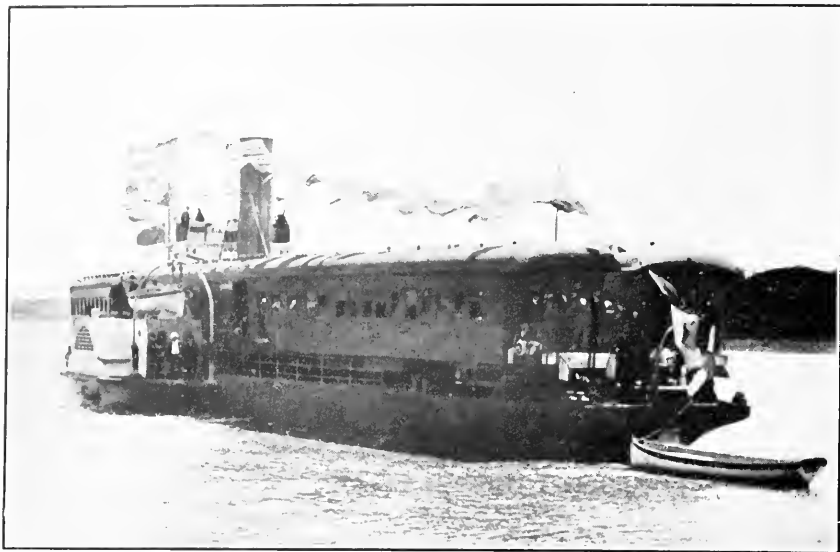
THE RIVER URUGUAY AT CONCORDIA, ARGENTINA.

The picture shows the breakwater, recently completed, and which now affords much better protection to shipping. Many ocean-going vessels make the port of Concordia. The city of Salto, Uruguay, lies on the opposite side of the river.



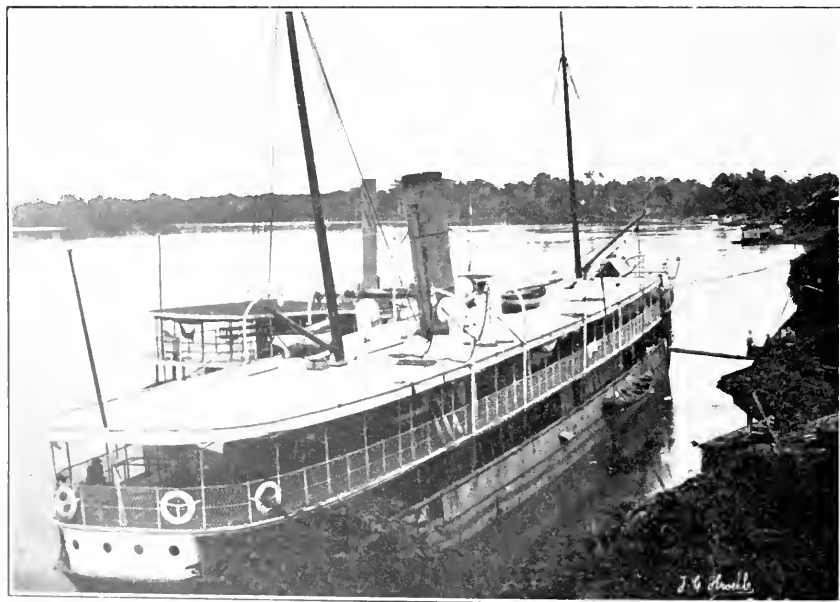
DOCKS AT ASUNCION, PARAGUAY.

The present docks and shipping facilities are inadequate, and to-day modern and enlarged port works are under construction. This port is nearly a thousand miles from the sea, on the Paraguay, and receives regularly many ocean steamships.



A CONNECTING LINK BETWEEN ARGENTINA AND PARAGUAY.

Between the Argentine port of Posados and the Paraguayan port of Encarnacion the through trains between Buenos Aires and Asuncion are ferried over the Alto Parana. The picture shows the style of ferryboat in use.



THE STEAMER "SANTAREM" NEAR IQUITOS, PERU.

Iquitos, on the Marañon, the upper reaches of the Amazon River, is the chief fluvial Peruvian port. It is in direct steamship communication with the Brazilian River ports of Manaus and Belem (Para) and also with New York and several European ports.

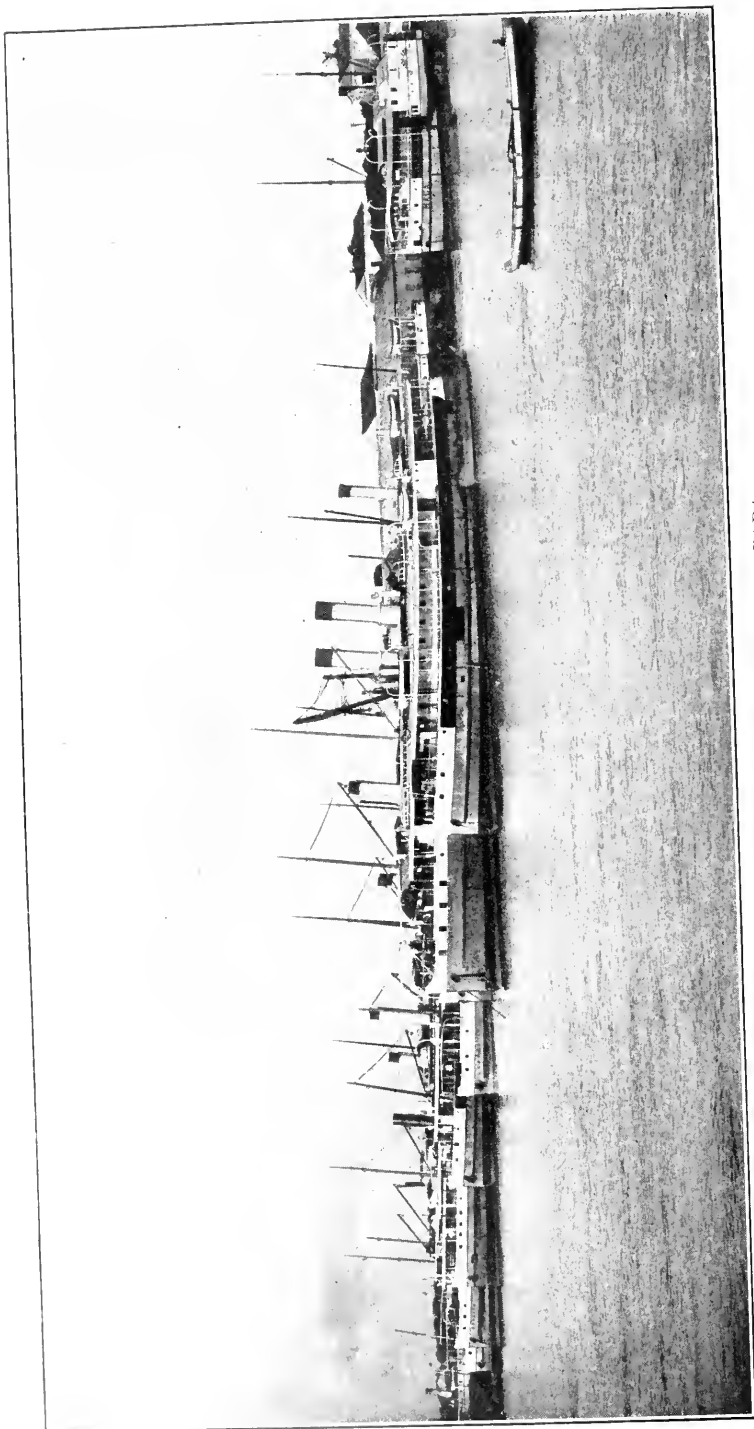
A hundred miles and more out at sea the mighty current of the Amazon is felt. This fact was strikingly illustrated a few years ago when a vessel on which the writer was traveling lost part of her keel off the Brazilian coast; the ship was compelled to drift; we moved northwestward in the Atlantic at the rate of four miles per hour, but upon striking the outflowing Amazon the course was soon altered, although no appreciable change in the movement of the sea was noticeable.

The three great river systems, the Amazon, the Orinoco, and the Plata are most valuable assets to inland water traffic; they drain vast areas and each system carries its waters to the same ocean but by different routes. Thousands of miles of tributaries, flowing to all points of the compass, swell the larger courses to sufficient depths for flat-bottom steamers for many future fleets of commerce.

As a practical illustration of the flat-bottom steamer and the shallow river, we have the traffic plying up and down the Magdalena from its mouth as far as La Dorada. After train service around the rapids boats again are utilized and the traveler goes many miles farther inland. Most of the steamers on the Magdalena are products of a Pittsburgh factory; and for the information of the intending traveler it may be said that these boats are small but comfortable, with electric fans and other modern conveniences. Like the one noted in the beginning of this article, they are wood burners and usually tie up at shore points during the night; coal or oil fuel not yet being available in sufficient quantities to compete with wood growing along the river banks.

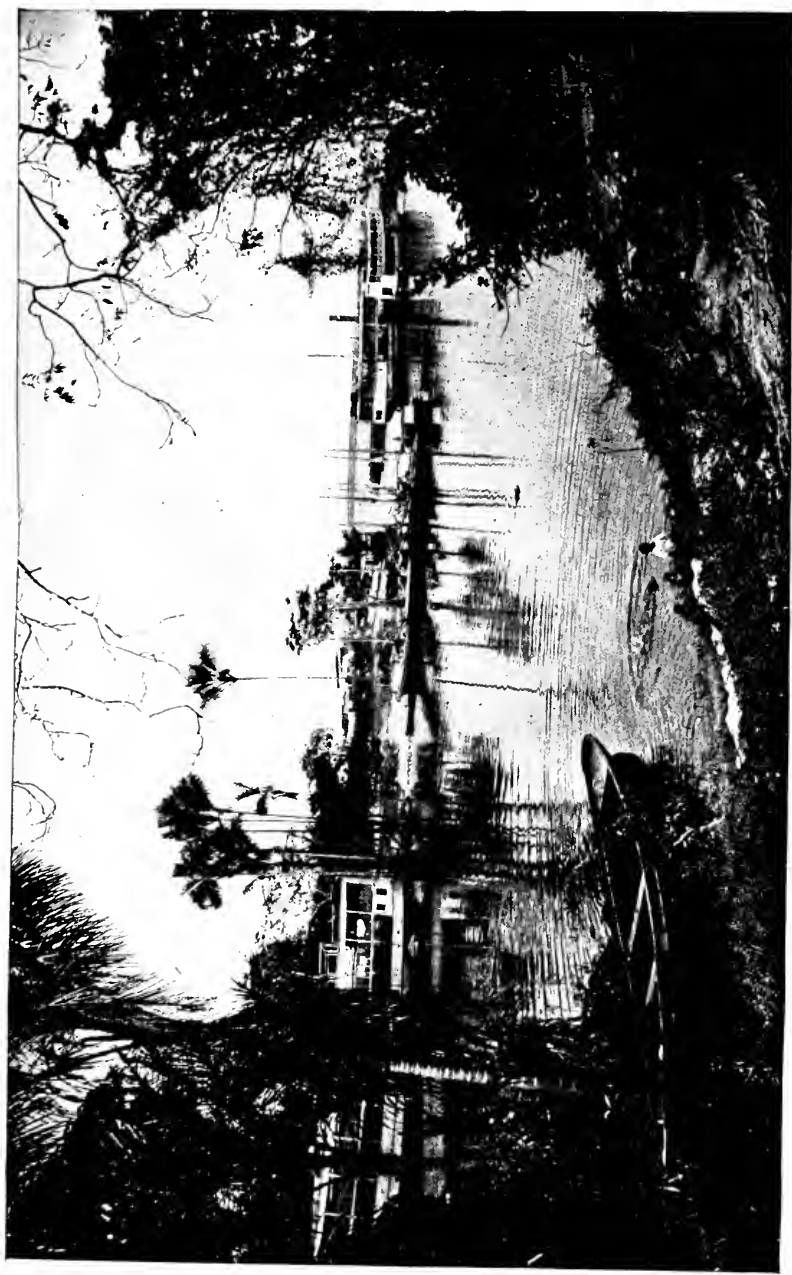
It seems that nature has ordained that the streams of the west coast of the continent must be used for purposes other than steamer navigation. Some of them are called rivers, but in comparison with water arteries of the eastern section of the continent, they are, with few exceptions, mere rivulets. One of these exceptions is the Guayas, upon the shores of which Guayaquil is located. The Guayas forcibly reminds the writer of the Irrawaddy (Burma); both are alive with tropical activities. The bamboo rafts, the canoes, the balsas, the sail boats, and the little steamers are equally numerous on the two watercourses, and at a distance the boatmen themselves have many traits in common. The little balsas, with the families of the raftsmen aboard, are quite interesting. They are made of tropical wood having a cork-like floating capacity; a log 50 feet long and a foot or more in diameter will bear about two tons of freight; many logs lashed together provide a cargo carrier of considerable capacity.

Contracts amounting to \$5,000,000 and the Uruguay River are at present figuring conspicuously in the minds of several American contracting firms. The Uruguay, as will be recalled, forms the western boundary of the country of the same name. The cities of



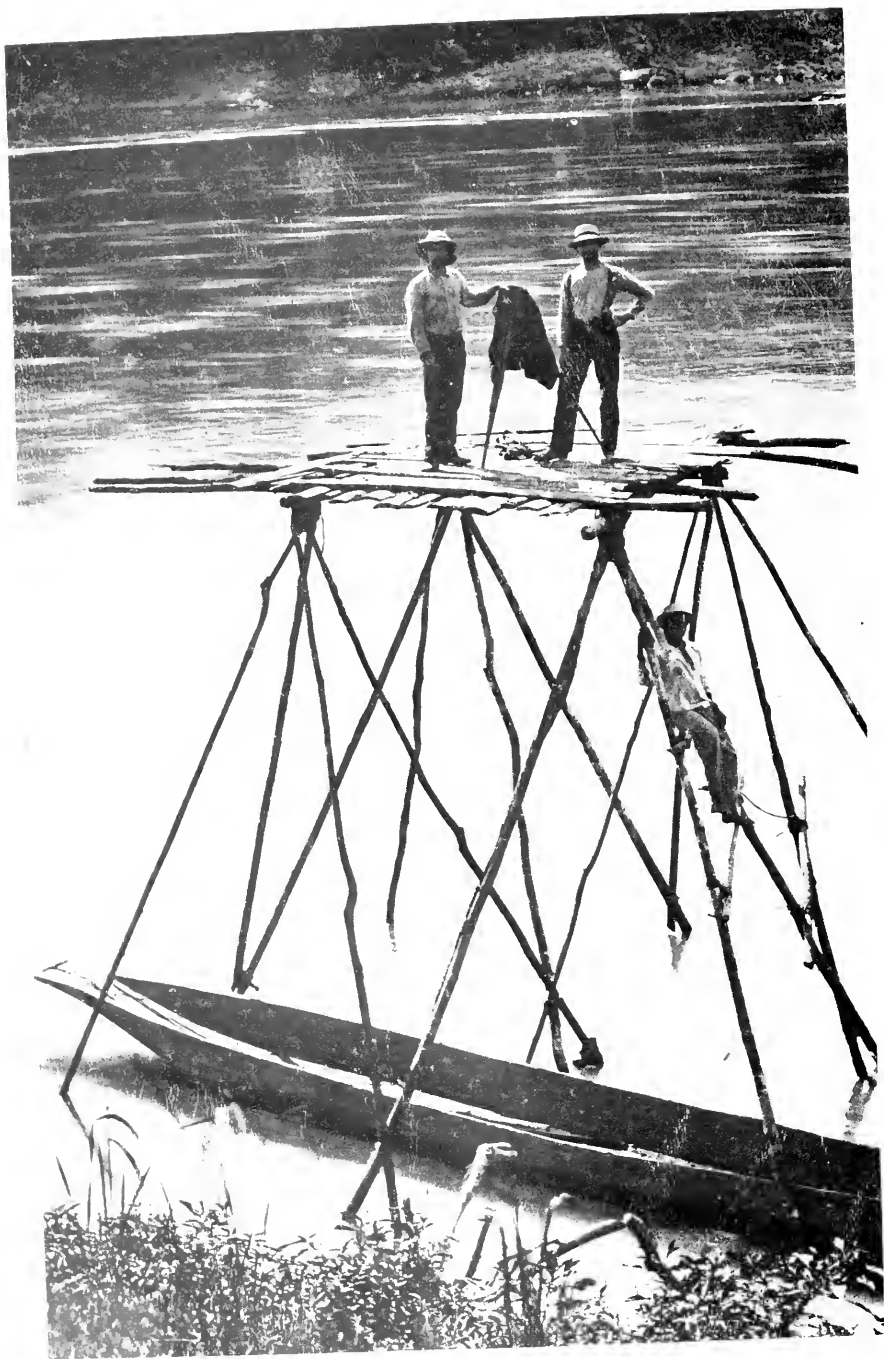
SOME OF THE TRIVER FLEET AT PARA.

Literally hundreds of small, light-draft steamers assemble at Para from the many tributaries of the Amazon. They go thousands of miles into the interior of the continent.



A TYPICAL SOUTH AMERICAN RIVER SCENE.

Those who travel far inland on the watercourses are sure to find a scene more or less like the one here portrayed. Many of them offer excellent subjects for the brush of the artist.



PICTURE MAKING ON THE UCAYALI, PERU.

The Ucayali is so far inland that comparatively few travelers see its lonely waters. Its source is not far distant from Lake Titicaca; it flows north through eastern Peru and empties into the Marañon near Iquitos. Note the cayali boat hewn from the mahogany log.

Salto, Paysandu, and Mercedes have awakened to the fact that they need modern water systems, sewerage, and other public works. The first two lie immediately on the river and the third one very near, so the American companies after securing the contract acquired a ship, and this vessel is not only navigating the Atlantic ocean, but delivers the required materials hundreds of miles inland, where the contractors are now hard at work improving the Uruguayan cities.

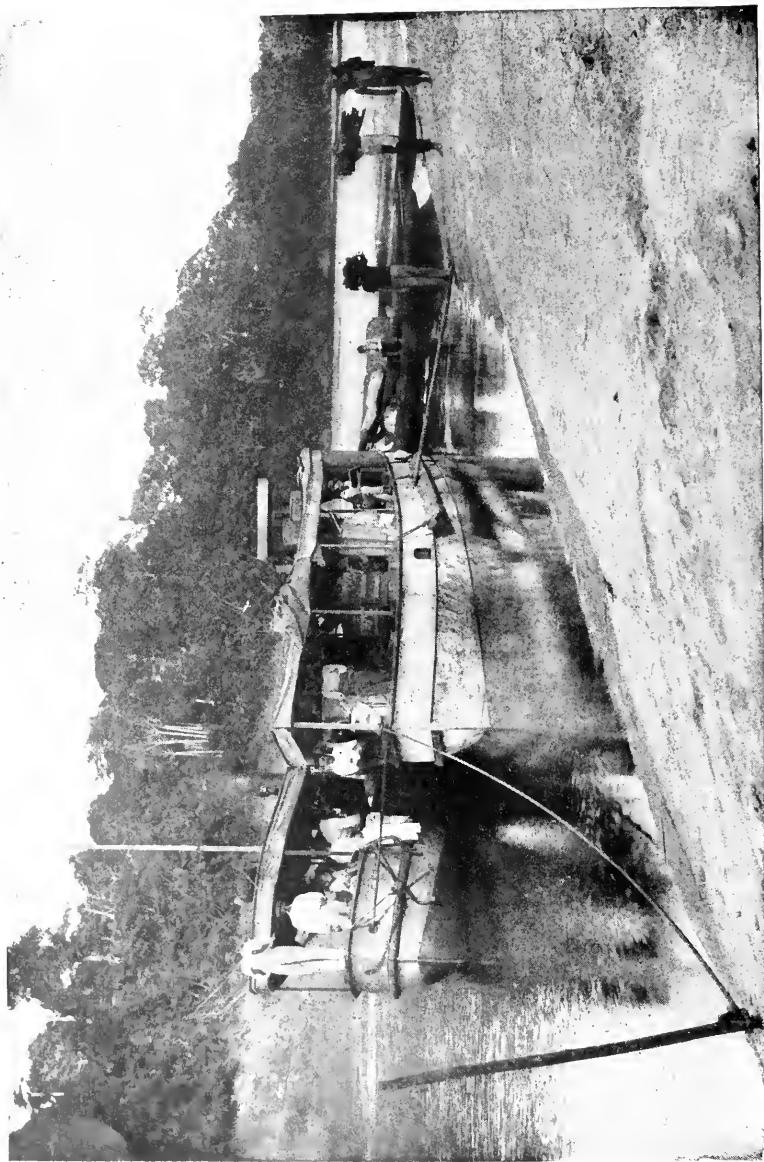
Would the reader navigate the Amazon or its tributaries? If so he may secure passage from the Amazon Navigation Co., at Para, to Puerto Velho on the Madeira, 1,700 miles; on the Acre and the Purus, 3,000 miles; on the Negro, 420 miles; on the Oyapeck, 800 miles; and on many other streams to reach settlements that are gradually finding places on the map of civilization.

At Buenos Aires he may arrange with the Melanovich Co., for a trip covering hundreds or thousands of miles on the Plata, the Paraguay, the Pilcomayo, the Bermejo, the Parana, and various other streams.

In order to steam up the Orinoco, the traveler takes a ship to La Guaira or to Port of Spain, Trinidad. From either place there is approximately weekly service up the Orinoco to Ciudad Bolivar; smaller boats then take one hundreds of miles on this and connecting rivers. Were it not for the rapids between Atures and Maipures, more or less, 10 miles long, it would be an easy matter to go through by steam launch from the Orinoco via the Cassiquiari into the Negro, then via the Amazon, Madeira, and Guapore to within 30 miles of a branch of the Paraguay. In other words, and according to the estimates of engineers, connection could be established between the Amazon and Plata systems by the construction of a 30-mile canal between the last two rivers named. By drawing on the imagination, based on other great artificial water links, we may in the future travel through the continent by means of little river steamers from the Orinoco to the mouth of the Plata.

The coast line of the entire South American Continent measures about 16,500 miles. Upon the navigable waters of the Amazon alone the small flat-bottom boat may traverse three times the distance around the continent. Add to these arteries the vast river mileage of the Orinoco and the Plata systems and the smaller water courses of other sections, and the fluvial possibilities of the continent become a vision that may eventually be realized.

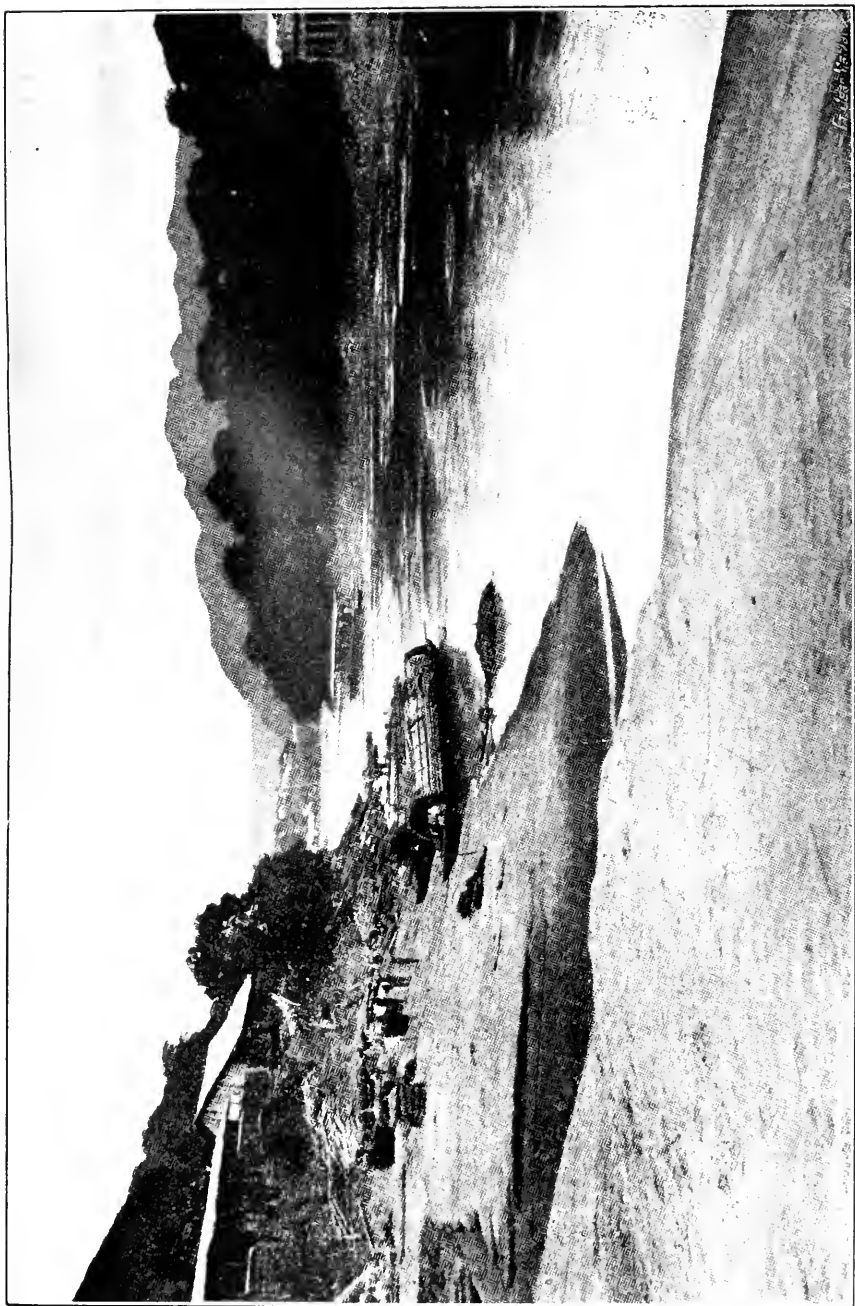
In considering river transportation of the South American continent it naturally follows that the large inland lakes, which in several instances form connecting links of travel, should be given at least passing mention.



Courtesy of G. P. Putnam's Sons.

ON ONE OF THE SMALLER STREAMS.

This picture shows the types of boats used extensively by the managers of rubber estates and the rubber gatherers in Bolivia, Peru, and Brazil.



ON THE MAGDALENA IN COLOMBIA.

Low water on this commercial artery usually causes delay, as the steamers must pick their routes with considerable care: their progress, of course, depends largely upon the amount of cargo.



A SECTION OF THE HARBOR OF GUAYAQUIL.

The smaller craft have come down the Guayas River with all varieties of tropical products to be loaded aboard the large ocean vessels for shipment to foreign lands.

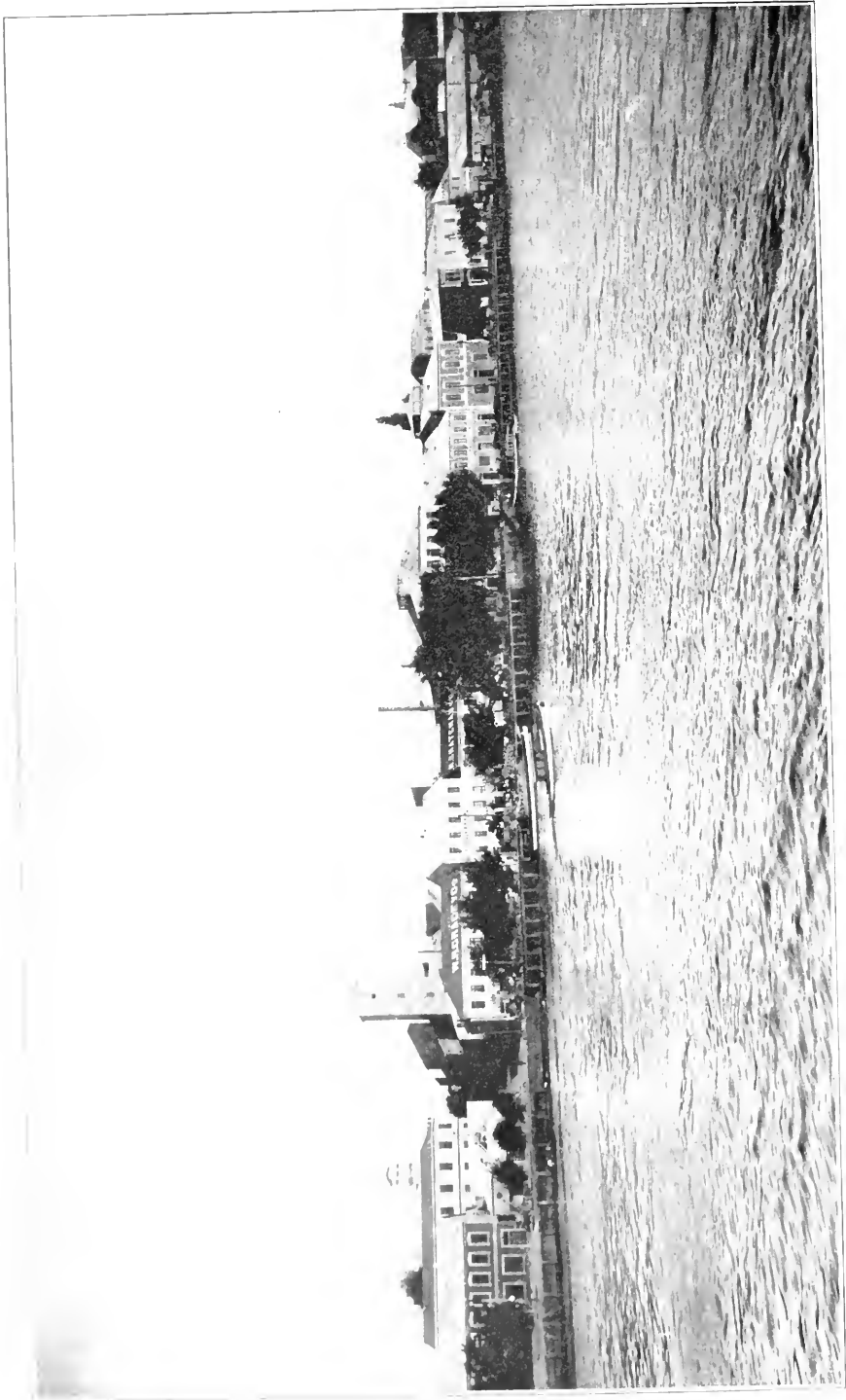
The world's highest body of water on which regular steamer service is maintained is the famous Lake Titicaca, which from the most ancient times has been associated with mystery and tradition. The traveler to-day congratulates himself if he reaches this little sea without paying the penalty nature exacts—that of suffering from *siroche*, or mountain sickness. Granted that one arrives in good health, there are many sights that please. The lake is 100 miles long by 35 broad. The little steamers that ply diagonally from Puno to Guaqui (125 m.) were built in Europe, transported by ship to Mollendo, and then carried in sections by rail up the mountains, and finally assembled on the shore of Titicaca. The crossing of the lake in 10 or 12 hours is interesting; at times one gets glimpses of the islands of the Sun and the Moon, whence tradition says the Inca race originated. Snow-capped mountains dominate the shoreline, the rarified air burns the face to a rosy red, for the little vessel rolls in the waves about 3 miles above the level of the sea. Cloud effects are marvels of beauty and nowhere has the writer seen more awe-inspiring displays of electrical phenomena.

In normal times by-weekly services are maintained between the Peruvian port of Puno and the Bolivian port of Guaqui by the corporation operating most of the Peruvian railways. Various other smaller settlements are located here and there around the lake, but they are served by steam launches or the curious grass-made boats of the native inhabitants.

Two thousand miles farther southward, where the Andes are much lower, is another beautiful lake near the boundary of Argentina and Chile. This is Nahuel Huapi, and the surrounding region is soon to become a great Government park with Huapi as one of the stellar attractions, just as Yellowstone Lake and its boiling geysers please the visitor in the American park of the same name.

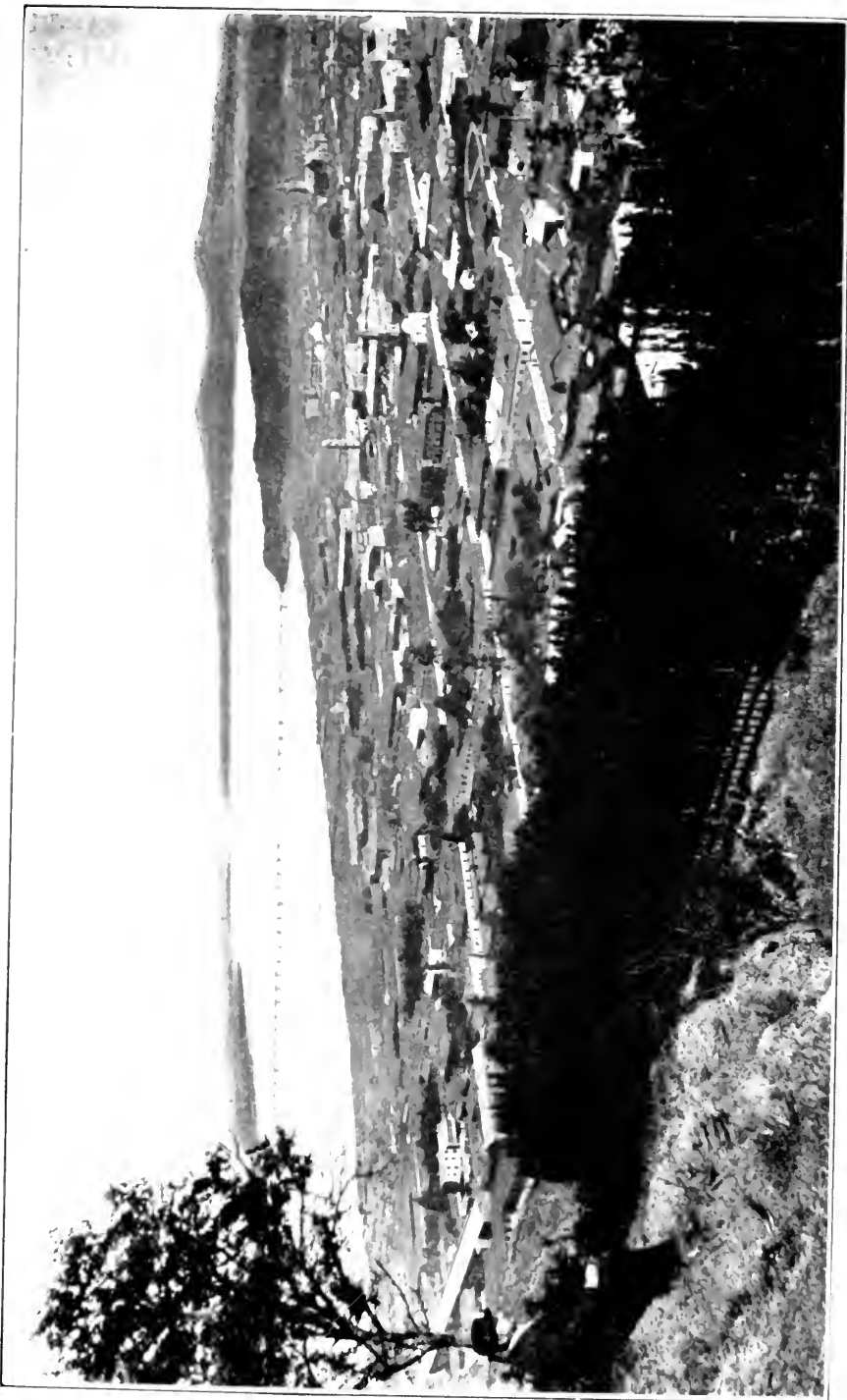
In recent years travel between Argentina and Chile has gradually increased and the little steamers plying across the lake from Bariloche are a convenience for both freight and passengers, especially used during the months of July, August, and September when the trans-Andean railway is often blocked by snow.

How do freight and passenger rates compare with those prevailing on great rivers of other countries? These are questions of a most practical nature and are frequently asked. On either class of traffic booklets could be written and still the subject would not be covered in its many details. But to be brief, freight and passenger rates on South American rivers are usually high, often exorbitant, and subject to frequent changes, depending of course, on the article to be shipped and the particular river. For instance, to transport crude Bolivian rubber from a point on the Madeira River to Para the cost often averages about \$18 per 100 pounds. All other freight



WATER FRONT OF VALDIVIA, CHILE.

Valdivia is one of the important cities of southern Chile. It occupies a picturesque site not far from the mouth of the Calbu-Calle River. This city was the fifth founded by Pedro de Valdivia, who gave it his own name, in 1552. It was the scene of fierce battles between the Spaniards and the Araucanos and later, during the war of independence, one of the most notable encounters took place in Valdivia Bay, when Lord Cochrane's fleet defeated the Spaniards in 1820. At present it has a population of over 20,000. The commercial section of the city, which was destroyed by fire some years ago, has been practically rebuilt of concrete, over \$700,000 having been expended on this type of construction.



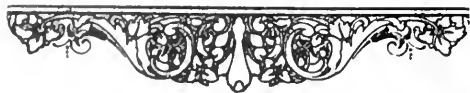
THE CITY OF CONCEPCION AND THE BRIDGE OVER THE RIVER BIO BIO, IN CHILE

Concepcion is situated on the Bio Bio River, across which passes a bridge measuring 1,718 meters (5,636 feet) in length. The city of Concepcion is a few miles from the mouth of the Bio Bio River. Both are directly connected with Santiago by rail and this can be said to be on the Long Island Railway.

is proportionately expensive. Passenger rates from New York to Iquitos and return average about \$400; time one way is slightly over a month. Local first class fare from Para to Manaos, 1,000 miles, is \$26. From Barranquilla up the Magdalena the traveler pays \$50 for 540 miles of steamer service, changing at La Dorada, Girardot, etc., if bound to Bogota. One may go from New York to Corumbá for about \$280, the different sections of the trip costing: New York to Buenos Aires, \$200; Buenos Aires to Asuncion, \$50; Asuncion to Corumbá, \$30; time, slightly over a month, depending upon connection at Asuncion.

The writer of romances finds an ideal field on South American streams. One gifted author went forth to the Plata, expecting in three months to write its romance; three years passed and the story is just finished—the result is two large volumes. Five hundred discouraged and heart-sick men started to walk and raft themselves back to civilization from the Madeira; to-day a human skull found here and there along their route tells the grim story. Near the headwaters of the Amazon a young European explorer was found, nearer death than life. He had sought surcease from sorrow for his lost love. The Orinoco, the Paraguay, the Negro, the San Francisco, the Heath, the short and fabled Desaguadero, and scores of others have their own stories of romantic and heroic achievement, of tradition, of hardships, of suffering. Some day these stories will be related.

What an extensive field still awaits the explorer, the scientific investigator, the huntsman, along South American rivers! Many daring men have told us a few of the secrets of the primeval forest, the almost impenetrable jungle, the high mountains; but considering the expanse and unmeasured areas, and the few new leagues of country that yearly become better known to the enlightened world, the opportunities for further study are indeed unlimited. Sailing up some of the oft-traveled streams we are constantly reminded of how meager is intimate knowledge of the great forest. Here a big tributary enters, but whence it originates or what lies along its course no man can say; fifty miles, a hundred miles farther, other streams pour fourth their placid waters, but along their overhanging shores perhaps no man has ever trod.



MAIZE--THE GREATEST OF AMERICAN FOOD PRODUCTS¹ " " "

THAT man is and has been for many ages of his development an omnivorous animal is evidenced by his teeth. His incisors and canine teeth are still with him, still serve the purpose of biting off and tearing the flesh he consumes, while his molars serve the purpose of grinding the grain he eats in many varied forms. True, he no longer tears raw flesh from the bone with the former, nor does he grind raw grain with the latter, but fundamentally his diet is very much the same now that it was some 100,000 or more years ago. Being now as he was then, both carnivorous and granivorous, and having been so all through the slow ages that have passed since he first became human, his teeth haven't changed much, nor has his appetite for that matter. The discovery that the application of fire to his food improved it very materially in several respects, a discovery that resulted in that most important of all arts, cookery, may have modified his tastes somewhat, but he still needs the same nutritive elements regardless of the fact that he partakes of them in a more elegant and dainty fashion and with somewhat more formality than was his custom when his palace was a cave and his weapon a club.

Rub off the thin—mostly very thin—vencer of civilization and place him in the primitive environment of his remote ancestors the average man will prove to be about the same animal. His elemental nature has undergone but little change. Doubtless, his brain has been greatly developed and his mental machinery much improved, but his complicated physical structure is but little altered. To keep that physical structure in good repair and to keep the entire human machine in a high state of efficiency, man has found that he needs a variety of food. As a consequence he has from time to time discovered new things that are "good to eat," things that contain the chemical elements in one form or another that he needs to replace the tissues of nerve, muscle, bone, and fat—the brain and brawn—that are wasted during his day of activity. Meat contains some of these elements, as do nuts and fruits, but the greatest foods, those upon which the greatest number of men depend, are the grains; and the greatest of all the grains, the one most recently made known to

¹ By Edward Albes, of Pan American Union staff.

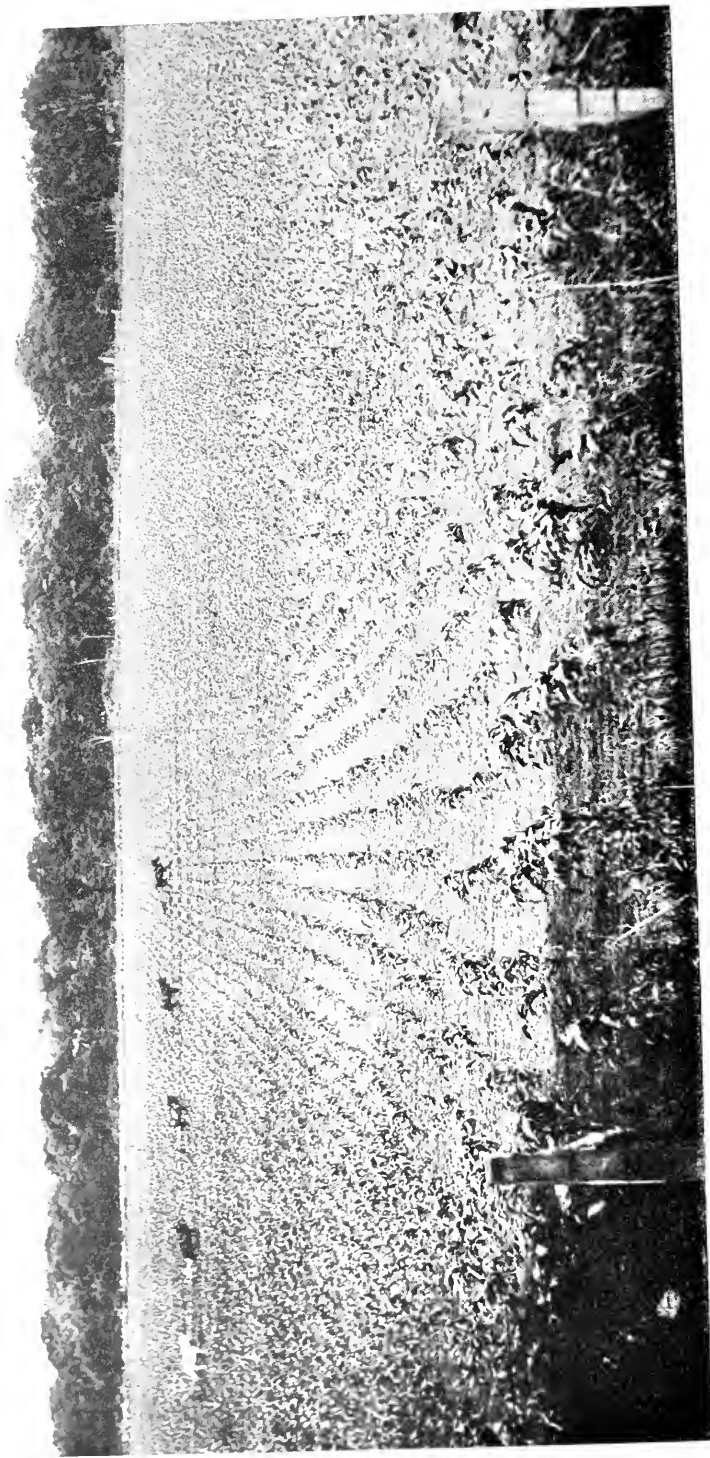


Photo by Underwood & Underwood, New York.

A CORN FIELD IN IOWA.

The two greatest corn-producing States of the United States are Iowa and Illinois. In 1914 there were 10,245,000 acres of land planted to corn in Iowa, resulting in the production of 389,424,000 bushels of the product, while in Illinois the acreage was 10,346,000 and the production 300,034,000 bushels. In 1915, however, Illinois led with an estimated production of 376,104,000 bushels, Iowa's estimated production being 303,000,000 bushels the acreage being 10,449,000 and 10,100,000 respectively. The above picture shows an Iowa corn field in an early stage of its cultivation.

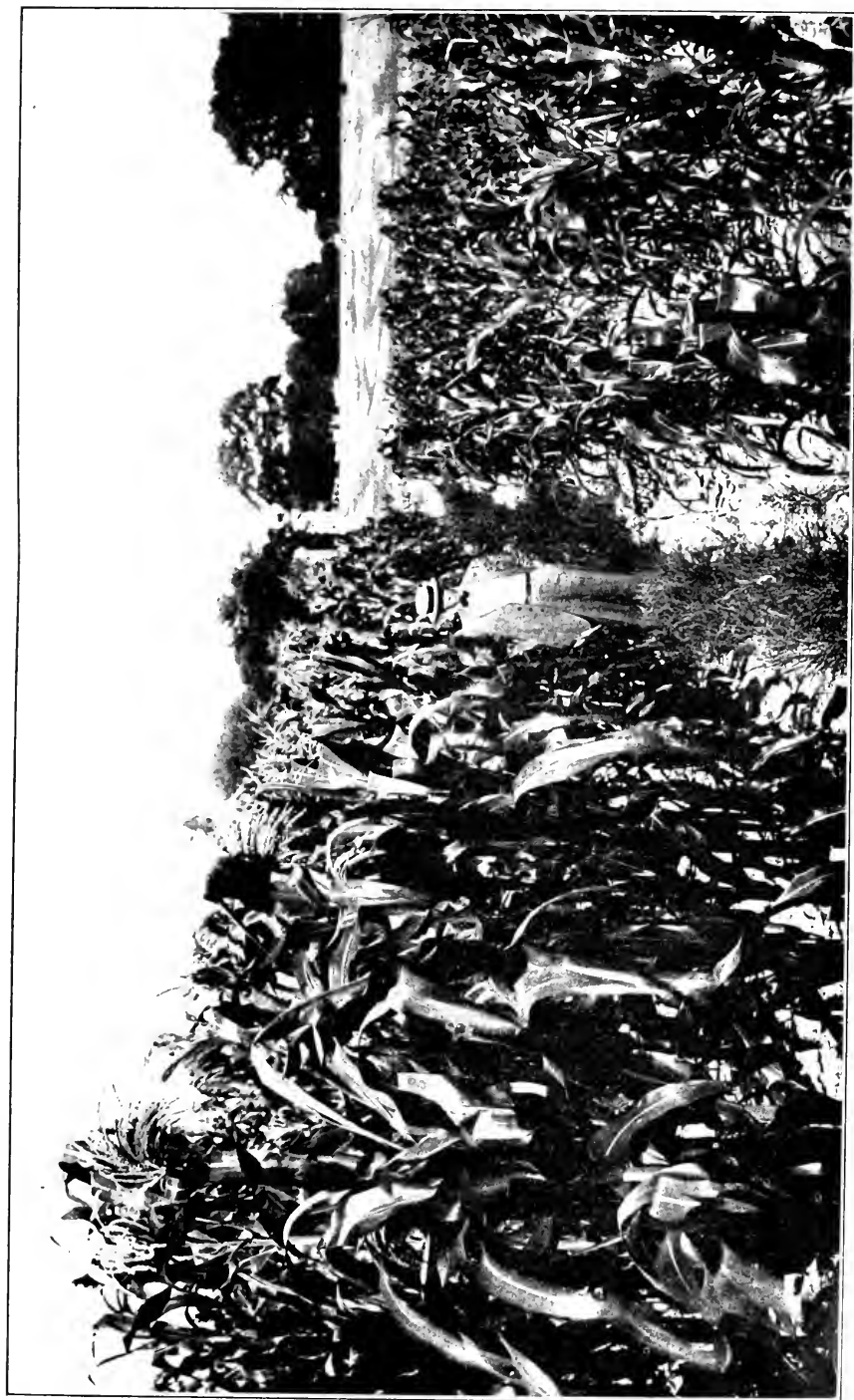
what we are pleased to call the "civilized" world, is the one given to it by the Americas, viz, Indian corn, better known beyond the confines of the United States by the name of "maize," the spelling of the word varying somewhat in the several languages into which it has been incorporated.

That maize was unknown to European, Asiatic, and African peoples before the discovery of America is now well established. Aside from the testimony of Humboldt, Darwin, and others, the matter of the origin of maize was finally settled by the celebrated Swiss botanist, Alphonse De Condolle, who in the revised 1882 edition of his "Origin of Cultivated Plants" sifted all the evidence and reiterated the statement he made in 1855 that "Maize is of American origin, and has only been introduced into the Old World since the discovery of the New."

Just where in the Americas it originated is a mooted question. "At the time of the discovery of the new continent," writes De Condolle, "maize was one of the staples of its agriculture, from the La Plata Valley to the United States. It had names in all the languages. The natives planted it around their temporary dwellings where they did not form a fixed population. The burial mounds of the natives of North America who preceded those of our day, the tombs of the Incas—the catacombs of Peru—contain ears or grains of maize, just as the monuments of ancient Egypt contain grains of barley and wheat and millet seed. In Mexico a goddess who bore a name derived from that of maize (*Cinteutl*, from *Cintli*) answered to the Ceres of the Greeks, for the first fruits of the maize harvest were offered to her, as the first fruits of our cereals to the Greek goddess. At Cuzco the virgins of the sun offered sacrifices of bread made from Indian corn. Nothing is better calculated to show the antiquity and generality of the cultivation of a plant than this intimate connection with the religious rites of the ancient inhabitants." Again he says: "The cultivation of maize is more ancient than the monuments, to judge from the numerous varieties of the species found in them, and their dispersal into remote regions."

That maize was a staple crop among the ancient Peruvians and that they made both food and drink from it, may be gathered from many sources. In this connection a passage from the "Royal Commentaries of Peru," written by Garcilasso de la Vega, the great Peruvian historian, whose mother was a daughter of the ancient line of Inca monarchs and whose father was one of the old Spanish conquistadores, is of more than passing interest. It is taken verbatim from an old translation of the Commentaries, made by Sir Paul Rycaut and published in 1688, and runs as follows:

The Fruits of *Peru*, by which the *Indians* were sustained before the coming in of the *Spaniards*, were of divers sorts, some being produced above, and others under the



SCIENTIFIC AGRICULTURE VERSUS ORDINARY FARMING.

It has been found that a deep and thorough stirring up of the soil, aided by the use of a proper fertilizer, stimulates the productivity of the land. Recent experiments in the use of dynamite to break up the land have met with great success, as may be seen from the above picture. The land on the left was dynamited and the corn properly cultivated, producing the splendid crop shown, while that on the right was given merely ordinary cultivation and plowing.

ground. Of the Fruits which grow above ground, the chief and principle is that Grane which the people of *Mexico* and *Barlovento* call Mayz, and those of Peru, Cara, being the onely Bread they use: And this is of two sorts; one is hard, which they call *Muruchu*; and the other tender and fine, called *Capia*: they eat it for Bread, either baked or parched over the fire, or boiled in water: the hard Mayz is that which they have brought to show in *Spain*, but not the fine and tender sort. Some parts produce much finer, and tenderer than others, particularly the Countrey of *Rucana*. At their solemn sacrifices, as we have said, they used Bread made of Mayz, which they called *Cancu*; and at other times, on occasion of a Feast or treatment which they gave, they made that sort of Bread which was called *Huminta*: the which sorts of Bread had little difference in themselves, being onely distinguished by their use, some being made for sacrifice, and others for common sustenance: Their Corn was Ground by the Women on a broad Stone, on which they cast the Grist, and on the top thereof they laid another stone in the fashion of a Half Moon, not round, but with a point of three fingers broad at each corner. At the corners of the Stone, made Half Moon wise, they laid their hands, rubbing and pressing it hard on the Mayz, until it was broken: This difficulty and trouble they had in grinding their Mayz, and all other Grane; for which reason they did not commonly eat Bread. They did never beat their Corn in Mortars, though they had learned the way of it; because it required more labor of the Armes, than the Grinding with a Stone, the weight of which made the work more easie: * * * They made also a kind of Hasty-Pudding, called *Api*, which was a great dish amongst them, and which they eat with much delight; but this was esteemed high feeding, and not common at every meal. The Flour they divided from the Bran, in this manner, they laid all upon a clean cloth made of Cotton, and then spread it with their hands all over the Cotton-cloth; the finest part of the Flour would stick to the Cotton, but the more gross parts of the Bran would remain loose from it, and so they easily took it up, and divided it with their hands; they then swept up the Flour which stuck to the cloth into the middle; and having taken that away, they brought more, until they had cerned and sifted all their Grist; but they chiefly took this pains for the sake of the *Spaniards*, and not of the *Indians*, who were not so curious in their diet, but that the coarsest sort of this Bran would go down with them; for the Bran of Mayz is not so harsh or choaky, as much to offend the palate. This was their manner of dividing the Bran from the Flour, for as yet the use of Sieves was not brought from *Spain*, by reason that their Bread was all made of this Mayz, and not of Wheat: All which I can testifie to have seen with my own eyes, having been nourished for nine or ten years with no other Bread than of *Cara*, which is Mayz; the which is of three sorts: *Cancu* is for sacrifice, *Huminta* for their Feasts, and great entertainments; *Tanta*, with an aspiration on the top of the mouth, is common Bread. *Cara*, when it is parched, they call *Cancha*. * * * Of the Flour of Mayz the *Spanish* Women made Biskits and Fritters, and other Dishes, both for healthful, and people that were sick; for the Physicians in that Countrey forbid Wheaten Bread to all those that are sick, and prescribe them no other diet, than what is made of Mayz. Of this Flour, with water, they brew their Drink, which the *Indians* know how to make sower after a certain manner, that it becomes excellent Vinegar. Of the Canes before the Mayz is ripe, they make rare Honey; and after it is ripe, the Canes being dried, are good feeding for all Cattel. Some *Indians*, who love to be drunk, lay *Cara* steeping in water, until it be grown, and then they grind it, and boil it in the same water, and afterwards draw it off, and keep it until it be stale: This is the strongest drink they have, and which presently makes them drunk, they call it *Vinnapu*, and in other languages *Sora*. The *Incas* forbad it, because it was so violent and strong, though now, they say, it is come in use again amongst some toping fellows. All these uses, as we have said, they have of this *Cara*, besides many others in Medicines and Physick, and in Plasters, as we have mentioned in the other part.



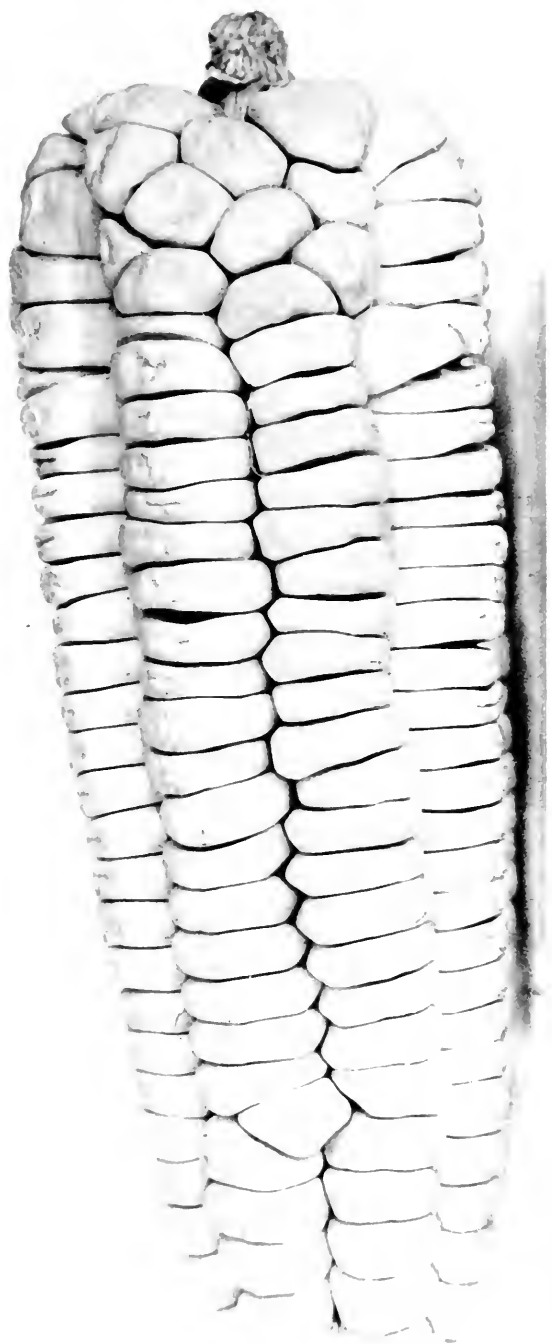
Courtesy of the States' Relation Service, United States Department of Agriculture.

BOYS' CORN CLUBS IN THE UNITED STATES.

One of the activities of the States' Relation Service of the United States Department of Agriculture is the organization of corn clubs among the farmers' boys throughout the country. Teachers in the rural schools organize the school boys over 10 years of age into clubs; the demonstration agent of the Government furnishes the plan of organization and the instructions; the respective parents furnish the required land, teams, and implements; the merchants and bankers of the community provide prizes; and the local newspapers give publicity to the work. Each boy must prepare the soil, plant, and cultivate 1 acre under regulations governing all contestants. The result of 300 to 400 boys entering such a contest in a county arouses great interest, and the boys learn the best way to raise corn. In one State a small boy raised 152½ bushels on his acre of land, while the average yield for the State was but 16 bushels to the acre. The upper picture shows one of these corn clubs receiving instruction, in the lower may be seen one of the young prize-winning farmers standing in his field.

It will be seen by the foregoing that long before the advent of the white man the Peruvian Indians made corn bread as well as corn whisky and that the Incas had instituted a system of prohibition among their subjects. Verily, there's but little that's "new under the sun."

It was not only in Peru and Mexico, however, that maize was extensively cultivated. In reality it was the great food plant of practically all the American Indians who sought the aid of cultivation in obtaining food. The name is supposed to have been derived from the Arawak *marise*, corrupted to *maysi* and *mahiz* by the Carib natives of the Antilles. Columbus found it to be the principal food staple of the natives of Santo Domingo or Haiti, where it was called *mahiz*, and his was the first account of the grain made public in Europe. According to the Handbook of American Indians (Bulletin 30), published by the Bureau of American Ethnology, Smithsonian Institution, Washington, D. C., maize is generally supposed to have been derived from native grasses, the *Euchlona mexicana* of south Mexico and *E. luxurians* of Guatemala, the latter approximating most nearly the cultivated corn. Harshberger says linguistic evidence shows that maize was introduced into the United States from the tribes of Mexico and from the Caribs of the West Indies, but the time of this introduction can only be conjectured. That it was long before the appearance of Europeans, however, is evident, not only from its early and widespread cultivation by tribes of the area now embraced in the United States, but from the fact that indications of its cultivation are found in mounds and in the ancient pueblo ruins and cliff dwellings, while corroborative evidence is found in the fact that several varieties of maize had already been developed at the time of the discovery, four being mentioned as in use among the Indians of Virginia. Jacques Cartier, the first European to enter the St. Lawrence, observed large fields of growing maize at Hochelaga (now Montreal) in 1534, and Champlain found it in cultivation at almost every point visited from Nova Scotia to upper Ottawa River. The supplies obtained from the Indians by the New England and Virginia colonists are well known. Hennepin, Marquette, Joliete, La Salle, and other early French explorers of the Mississippi Valley found all the tribes they visited, from the Minnesota River to the Gulf of Mexico, and even into Texas, cultivating maize; and the same was true of the tribes between northwest Mexico and the plains of Kansas when visited by Coronado in 1540-1542. Even the Mandan and Arikara on the upper Missouri had their maize patches when first seen by the whites. In short, it "was cultivated both north and south to the geographical extent of its productive culture," according to Brinton's American Race, and many of its present forms as a food are derived from the Indians, such as ash cake, hoccake, succotash, samp, hominy, etc.



Courtesy of the Bureau of Plant Industry, United States Department of Agriculture.

TYPICAL EAR OF CUZCO CORN.

Note the size of grains, and that there are but eight rows on the cob. The variety is indigenous to the tropical countries of South America, and is extensively cultivated in Bolivia and Peru, sometimes at an altitude of 12,000 or more feet above the sea level. This is one of a number of varieties that had been cultivated by the aborigines for many centuries before the Spanish conquest. Several varieties have been found in the ancient tombs of the Incas, a circumstance which points to the great antiquity of maize culture among the Peruvian Indians.

According to Fee (*Souvenirs de la Guerre d'Espagne*), it was in 1500 that the first maize was sent from America to Seville, Spain, for cultivation. From Spain it was introduced into France, Italy, Turkey, and other eastern sections of Europe, as well as into northern Africa, whence it soon spread to other parts of that continent. Its introduction into Asia was doubtless due to the Portuguese voyagers who took it to India, China, Cochín, and parts of the East Indies soon after the establishment of their settlements by Vasco de Gama. Some of it was also doubtless introduced by way of the route from Turkey. Once introduced, and its valuable properties as a food for man and beast established, its cultivation spread with wonderful rapidity, so that it has now become the greatest grain crop, from the standpoint of quantity as well as value, in the world. According to J. Burt-Davy (*Maize—Its History, Cultivation, Handling, and Uses*, 1914), the figures for the comparative world's crop of the leading cereals for a single year are as follows:

	Bushels.
Maize.....	3, 875, 927, 000
Oats.....	3, 532, 470, 000
Wheat.....	3, 428, 998, 000
Rice.....	3, 203, 782, 000
Rye.....	1, 432, 395, 000
Barley.....	1, 293, 916, 000

According to the 1915 Yearbook of the United States Department of Agriculture, in 1914 the world's maize crop amounted to 3,864,279,000 bushels, the United States furnishing 2,672,804,000 bushels thereof. In that year the wheat production was but slightly less, the world's crop amounting to 3,619,466,000 bushels. In 1915, however, the maize production of the United States came to the unprecedented figure of no less than 3,054,535,000 bushels, having a farm value of over \$1,755,860,000. Just what the figures of the world's crop were can not now be ascertained, owing to the lack of official statistics from Russia, India, Australia, and some other countries. From reports that are available, however, it may be safely estimated that the total production was considerably in excess of 4,200,000,000 bushels.

Of the entire maize crop of the world the United States produces about three-fourths. Corn is such a commonplace, ordinary sort of thing, and so uninteresting to most city-bred people, that perhaps few of them realize the important rôle it plays in the economic well-being of their country. Unless their attention had been directly called to the fact, not many of them would even guess that the corn crop of the United States is worth nearly twice that of the wheat crop, or that in 1915 the record-breaking wheat crop of 1,011,505,000 bushels, worth \$930,302,000, and the big cotton crop, worth \$602,393,000,



Courtesy of Bureau of Plant Industry, United States Department of Agriculture.

AN EAR OF RED CUZCO CORN.

At the time of the Spanish conquest of Peru the natives had produced not only ordinary varieties of white and yellow corn, but also varieties of various shades of red and of purple coloring. The grains of the ear pictured above are of a very dark color. It is only the pericarp of the grain which is thus colored, the starchy substance of the inner part being as white as that of ordinary corn. Ears having purple grains are also quite common.

when added together still lacked \$223,165,000 of being as valuable as the humble corn crop.

In regard to the production of maize in countries of the Americas other than the United States, statistics are available in but few instances. This fact may be largely due to the circumstance that in nearly all of them it is raised for home consumption only. It is grown extensively in all the countries of Central America, the West Indies, and in the tropical regions of South America, but accurate statistics as to their production are not available with the exception of the following countries: Argentina, the greatest of the corn-producing South American countries, in 1915 produced about 338,235,000 bushels; Mexico produced about 60,000,000 bushels; Uruguay produced 11,495,000 bushels; and Chile about 2,000,000 bushels. Argentina exports something over 70 per cent of its annual production, and consequently is an important factor in the world's commerce in the commodity. In fact, that Republic is the greatest corn-exporting country in the world and the market price of the staple in Europe largely depends upon the success or failure of the Argentine crop. The United States, as heretofore stated, produces about three-fourths of the world's crop, but sells less than 2 per cent of its production to foreign consumers. Incidentally it may be noted that Argentina is at present utilizing not over one-eighth of the land that is splendidly adapted to the production of maize. Multiplying its present production by 8, it may be seen that within a few years its annual production will rival that of the United States. Improved methods of cultivation, of storing, and of transporting the grain will also increase the country's exporting power, and it is a tolerably safe prediction to state that 30 years hence Argentina will absolutely dominate the world's corn market. In 1912 the country's maize exports amounted to 5,480,817 metric tons (about 219,000,000 bushels). With the country's production developed to its maximum, its annual export should reach over 1,500,000,000 bushels. The annual increase of the country's wealth from its corn crop alone is destined to be enormous, and the Argentine farmer is shrewd enough to give his attention to the crop that pays the most on his investment of capital and labor.

Botanically, maize belongs to the group of monocotyledons and the family gramineæ, or grasses. It has never been found in a truly wild state, but its closest relative, as heretofore suggested, is the native grass, *Euchlæna*, of Mexico. Linnaeus gave it the botanical name *Zea mays*, the generic term *Zea* being from the Greek word—the name of a grain mentioned by Homer as being used for feeding horses—while the specific term *mays* is the original American name under which it was introduced into Europe. The maize plant is so well known throughout the Americas that no detailed description is necessary. In general terms it may be said to be a tall, monoecious



Courtesy of Bureau of Plant Industry, United States Department of Agriculture.

MINGLED RED AND WHITE GRAINS ON AN EAR OF CUZCO CORN.

Ears of the corn are often found which have red and white (or yellow) grains intermingled in about equal proportions on the same ear. It is said that ears with grains of many colors were regarded as sacred by the ancient Peruvians, and that on the occasion of their annual harvest festivals, celebrated with music, dancing, feasting, and drinking *chicha* (a liquor made from the grain of maize), prizes were distributed among those who were lucky enough to find certain colors in the grains of full ears. Choice ears of corn and quantities of *chicha* were offered as propitiatory sacrifices to the gods in connection with prayers for a plentiful harvest; bread made of corn meal of special excellence was offered to the virgins of the Temple of the Sun, and also formed one of the dishes for festival occasions; before crossing a dangerous stream, or before fishing in a river, grains of corn were thrown into it to propitiate its god.

grass with stout, erect, solid stem and long, rather broad, ribbon-like leaves; the staminate flowers form a terminal panicle; the pistillate flowers are arranged in a densely crowded spike called the "ear," terminating a short lateral branch and closely enveloped in leaf sheaths called the "husk;" the long styles, exerted in anthesis, form the "silk" or beard.

To go into the matter of its culture, the climatic and soil conditions required, the many varieties and hundreds of breeds produced by scientific agriculturists, the diseases and pests to which it is subject, and the many other details of interest chiefly to the specialist in maize culture is beyond the scope of this article. Readers specially interested in such details know that corn culture has been the subject of many voluminous works in the form of books as well as special reports of agricultural departments of various governments in whose countries it is a staple product, and know that such works are available in almost any public library. For the casual reader it will perhaps be enough to state that maize seems to be peculiarly sensitive to climatic variations, and these furnish the principal limiting factor of distribution of the crop. These variations include temperature, sunshine, amount and incidence of rainfall, and length of growing season. Geographic features and the character of the soil are also important. Only when these several factors are suitably combined is maize culture commercially successful. Broadly speaking, the most favorable conditions are long, humid summers, hot days and warm nights, comparatively heavy, intermittent rains, with abundance of clear, sunshiny weather between. Altitude is a very important factor, since it materially influences length of season, temperature, precipitation of moisture, depth and richness of soil, etc., and must thus be taken into account. Humboldt records vast maize fields on the Mexican plateau at 8,680 feet above sea level, and near Lake Titicaca in Peru and Bolivia maize is successfully grown at an elevation of over 12,000 feet. In the United States, on the other hand, the great corn belt between the thirty-fifth and forty-fifth parallels has an altitude ranging from 500 to 1,500 feet. Being a tropical plant, maize is susceptible to frost in all its stages of growth, but being an annual it can be grown as a summer grain crop in temperate climates and as a fodder crop, but not for grain, even in cool-temperate areas, such as the south of England. Nearly 90 per cent of the United States crop is grown where the July isotherms average from 70° to 80° F., while the Argentine crop is grown with a mean January (midsummer) temperature of 75° F.

Having noted the tremendous production of maize and its broad distribution throughout the world, the question naturally arises, What is it all used for? Briefly, its principal uses are (1) for human food, when ground into meal and otherwise prepared; (2) as a source



Courtesy of the United States Department of Agriculture.

BREAKING LAND FOR CORN IN PROVINCE OF SANTA FE, ARGENTINA.

Argentina being in the Southern Hemisphere, the seasons are the reverse of those of the United States. In the central part of the corn belt the planting begins about September 15 and continues until January 1, the principal part of the planting being done between October 1 and December 15. The long period of time during which corn may be planted is very advantageous to the corn planters. Many make a practice of planting at least a part of the crop early, so that replanting may be done a month or two later, if necessary. The corn is planted largely by listers and by common planters, most of which are imported from the United States. The corn is planted in rows, from 25 to 30 inches apart, the hills in the rows being from 12 to 24 inches apart. The time required for the corn to mature varies with different varieties, but generally from 135 to 160 days must be allowed.



Courtesy of the United States Department of Agriculture.

SHUCKING CORN IN ARGENTINA.

The harvesting season is at its height in April and May. Corn in Argentina is shucked from the standing stalks in the field and thrown into baskets, which the shuckers move from place to place as the work progresses. Each basket, when filled, is carried to some convenient point, where the corn is emptied into sacks. A number of these sacks are placed together in the field and are later loaded on a wagon and hauled to the "troje" or crib.

of alcoholic beverages; (3) for stock food, either whole, crushed, or ground; (4) in the arts and manufactures, for which the inferior grain, the husks, cobs, and stalks are extensively used. Also, in the course of preparation for human food and for manufactures, a number of by-products are obtained which are used for stock and cattle feeding.

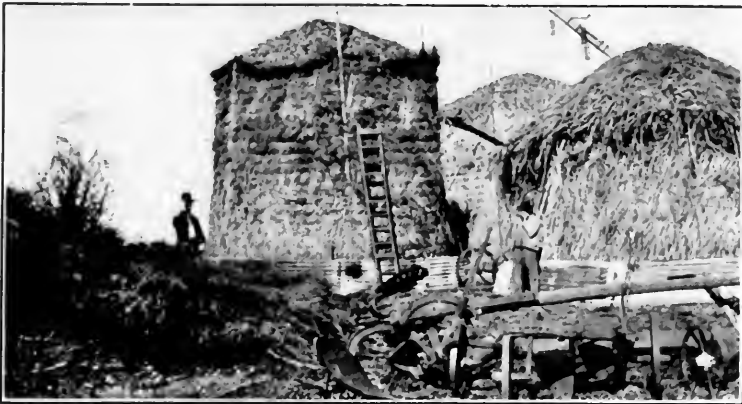
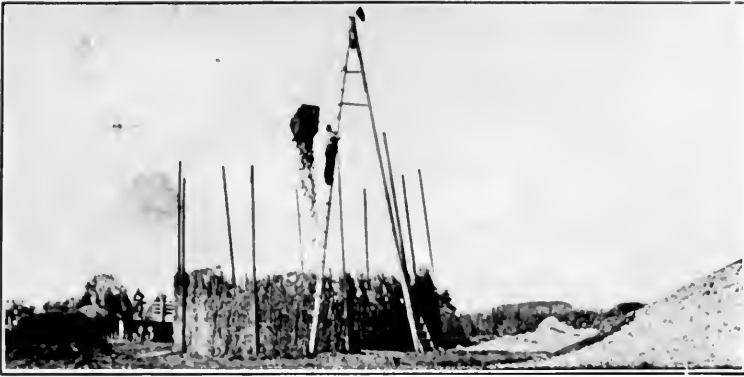
The food value of maize is shown by a chemical analysis of an average grain which, when dry, is as follows:

	Per cent.
Protein.....	12. 85
Carbohydrates, or nitrogen-free extract (starches, sugars, etc.)...	80. 12
Ether extracts (fats).....	5. 36
Ash.....	1. 67
	100. 00

To make its chemical constituents available for human food the grain is prepared in several ways. Among the native tribes of the Americas the general method was to crush and grind the grain between two stones, the one hollowed and stationary on the ground and the other rounded and held in the hand, the bran being separated from the meal by hand. This meal was then used to make bread, cakes, etc., much as it is used by the white man to-day. According to Prescott, the Aztecs were addicted to "confections and pastry, for which the maize flour and sugar supplied ample materials," and he adds, furthermore, "The Aztecs were as curious in its preparation, and as well instructed in its manifold uses, as the most expert New England housewife."

In the United States, the maize-producing country par excellence, it has been an important food factor from the earliest colonial period to the present. The first settlers subsisted mainly on maize after the Indians had taught them its culture and use. Improved methods of cultivation and new inventions in milling processes have but multiplied the forms of its use, forms that have become so numerous and varied that a complete enumeration thereof is not feasible in this sketch. Nor is that use restricted to any one section of the country, for in one form or another maize forms an important part of the diet of the people in all parts of the big Republic and among all classes. Only a few of the common forms in which it is used may be set out, as follows:

The grain when cracked into smaller bits and separated from the hulls and germs by specially constructed mills is made into a product called "hominy," which consists chiefly of the horny, starchy part of the kernel, with more or less of the white starch adhering. This product is boiled (often with salt meat) as a vegetable, and used as a substitute for rice or potatoes. Again, the horny portion of the grain is coarsely ground, and it is then known as "grits," or "hom-



Courtesy of the United States Department of Agriculture

ARGENTINE "TROJES" OR CORN CRIBS.

The "trojes" are built by placing poles in the ground in the form of a circle. Wires are then strung around on the inside of the poles to hold the corn or cane stalks of which the walls are constructed, as the filling of the troje progresses. These stalks are usually not fastened to the wires, but are held in place by the corn. The corn in the sacks as hauled from the field is emptied into a box placed alongside of the wagon. This box, filled with corn, is then drawn up over the top of the troje on a wire cable, where it is dumped into the inclosure. Sometimes the trojes are covered with canvas or zinc sheeting, but usually the covering is of cornstalks and husks or similar material. The top picture shows a troje in process of construction, while the lower shows the completed structures.

iny grits," and when boiled is eaten with milk and sugar as a porridge, or made into puddings, scones, fritters, etc. The finely ground form of the grain is known as "corn meal," and is cooked and eaten in the form of porridge known as "corn-meal mush" in the United States; the meal is also used to make puddings, cakes, fritters, etc., and in the Southern States especially to make "corn pone," "hoe cakes," and a light, friable, wholesome bread generally called "corn bread" and sometimes "Johnny cake." Incidentally it may be noted that in Italy, when cheese or other protein food is added to the corn-meal mush it is known as "polenta," and that the favorite food of Mexico, "tortillas," are cakes made of corn meal.

In the New England States corn meal is mixed with wheat and rye flour to make the famous "Boston brown bread." The starchy portion of the grain when very finely ground and pulverized is known as "corn starch," or "corn flour," from which are made blanchmanges, puddings, and various easily digested foods and desserts. In this form it is also often an ingredient in ice cream, giving it a smooth and velvety taste.

One peculiar variety of maize is known as "pop corn." It is so called because the grains when heated or roasted "pop" or burst open, so that they are turned completely inside out, the bursting being caused by the expansion of the moisture content and the swelling of the starch by the application of heat. The grains thus treated are then covered with sugar or sirup and formed into balls or packages of convenient size, and thus become a favorite sweetmeat for children and many adults.

Another form of preparation of the grain for food purposes which has become very popular in the United States during recent years is variously known as "corn flakes," "corn crisps," etc. The product is prepared from grain from which the germ and hull has been removed and which has been treated with sugar and salt. The prepared grain is cooked by steam, dried, rolled, and toasted in the form of thin flakes in a special oven, and is put up in packages and sold under various names as a choice breakfast food, usually eaten with milk or cream and sugar, and easily digested.

One of the most universal uses as a food to which maize is put in the United States, however, is as a "green" vegetable. The young grains of a maize "ear," before they harden and while much of the starch is still in its liquid or milky state, when boiled or roasted form a delicious food. Varieties known as "sugar corn" are usually considered the best for this purpose, the grains having a sweeter taste and being softer than the other kinds. Eating corn in this form became so popular that a method for preserving the grains in jars and tins was devised in order that it might be available the year round. This canned product has become so popular that millions of dollars



Courtesy of the United States Department of Agriculture.

GRAIN ELEVATORS IN ARGENTINA.

Of the surplus corn-producing countries of the world, Argentina occupies first place, furnishing about 55 per cent of the total international trade. To store the immense corn and wheat crops of the country preparatory to shipment to other countries requires enormous storage room. In the top picture may be seen a few of the great elevators on the water front in Buenos Aires. The picture in the center shows one of the modern country grain elevators recently built in the interior; the bottom picture is that of an elevator at Rosario, showing laborers in the foreground stirring damp grain by walking through it.

are now invested in the canning industry in the United States. The grains while freshly gathered are cut from the cobs, steamed sufficiently for preserving purposes, and then put in hermetically sealed tin cans. Used in soups or cooked in various ways, the canned product is almost as popular as is that fresh from the fields.

As a source of alcoholic beverages tremendous quantities of maize are used. The large quantity of starch present in the grain renders it particularly suitable for this purpose. The process of manufacture may be briefly outlined as follows: After cleaning and crushing the grain, the hull and embryo are removed. The remainder is then ground and cooked to dissolve the starch. The starch is fermented with 10 per cent of barley malt and yeast, and about 40 gallons of water per bushel of grain. The enzymes of the malt change the starch into sugar, and the yeast plants, feeding upon the latter, deposit alcohol as a waste product. The alcohol is evaporated off from the remaining water, etc., and is then condensed by passing through cold coils. The residue left in the fermenting tanks is washed to remove the remaining alcohol and pressed to take out as much as possible of the liquid. The latter is known as "distillery slop," while the solid portion is called "distiller's grains," and both products are used for stock feed. In the United States the manufacture of "Bourbon" and straight "corn" whisky consumes something over 30,000,000 bushels of maize annually, while in Great Britain about an equal quantity is used in making whisky and gin. How much is thus consumed throughout the world there is no way of determining, although the quantity must be enormous.

Lack of space prevents adequate consideration of maize as a stock food. The fattening and meat-producing qualities of maize are well known, and not only the grain but the leaves, stalks, and even the cobs are ground and used for this purpose. In the arts and for manufacturing purposes maize furnishes valuable raw materials. Out of grain of low grade, out of the stalks, and from the cobs are made such materials as starch, dextrine, glucose, corn oil, glycerine, sugar, alcohol, cellulose, rubber filler, paper, mats, hats, tobacco pipes, charcoal, powder, and various medicines.

In conclusion, the value of maize as a human food is underestimated in some parts of the world, notably in certain European countries, where it is regarded as merely a stock food. Many experts who have studied the subject now contend that maize is the cheapest and almost, if not quite, the best cereal food for man that the world produces. In nutritive value it is on a par with its only and more costly rival, wheat. For the benefit of those who doubt this statement the following comparison of the food value of wheat bread and corn bread (such as that referred to as being popular in the Southern

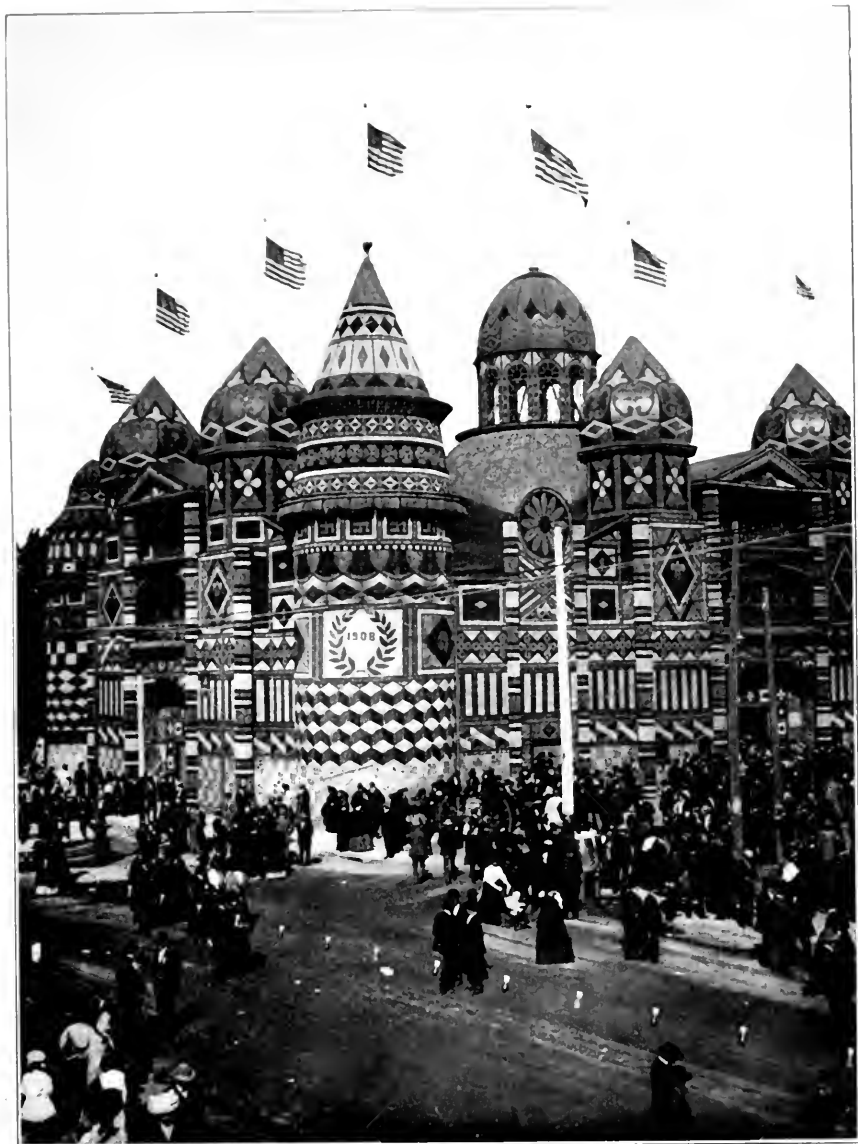


Photo by Underwood & Underwood, New York.

A CORN PALACE IN SOUTH DAKOTA.

Even in the northernmost States of the United States, such as North and South Dakota, corn is successfully cultivated. During the year 1915 no less than 3,250,000 acres in South Dakota were planted to corn, the resulting crop being 94,250,000 bushels, or an average of nearly 30 bushels to the acre. In the fall of the year, when the crop has been harvested, agricultural fairs and other forms of celebration are instituted. Upon the occasion of one of these celebrations at Mitchell, S. Dak., a large building called the "Corn Palace" was erected and the exterior and interior decorations were all made of various parts of the corn plant, including the grain, ears, cobs, stalks, and leaves, forming a most artistic scheme of ornamentation.

States of the Union), made by well-known chemists (Atwater and Wood, and Dr. Robert Hutchinson), may be of interest:

	Wheat bread.	Corn bread.
	<i>Per cent.</i>	<i>Per cent.</i>
Water.....	40.0	38.0
Protein.....	6.5	8.5
Fats.....	1.0	2.7
Carbohydrates (starch, sugar, etc.).....	51.2	47.3
Cellulose.....	.3	.....
Ash.....	1.0	3.5
	100.0	100.0

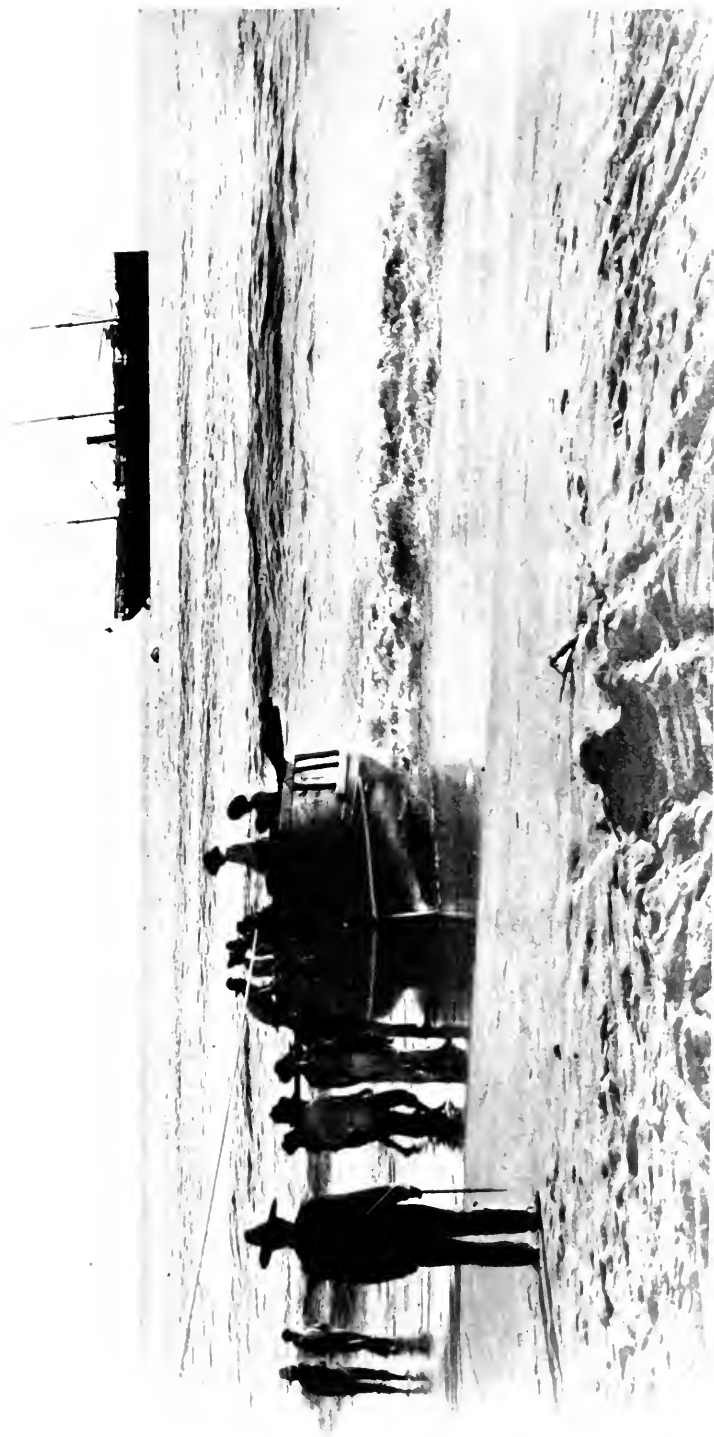
From which may be seen that corn bread is drier by 2 per cent, contains 2 per cent more protein, 1.7 per cent more fat, and less starch than wheat bread. Furthermore, experiments have shown that 90 per cent of the dry matter of corn bread is absorbed, as against 82 per cent of the wheat bread; of the protein of maize but 19.2 per cent escapes absorption; in wheat about 20 per cent is lost. Taking into consideration its cheapness, maize is the best food for man and beast that the world has ever known—and the world owes it to the American Indian.

WHAT CENTRAL AMERICA BUYS¹

WE should like to obtain some business in Latin America is a thought that is expressed by countless manufacturers all over the country, especially at this time when trade expansion with our southern neighbors is occupying so much attention from the commercial world. The idea of the manufacturer seeking foreign outlets for his product may be due to any of a number of reasons. It may be that the total output of his particular product is in excess of the demands of the home markets; perchance there is a lull in the local marts; or it is even possible that enjoying the maximum of business in domestic fields, the manufacturer feels that a natural expansion into foreign lands would be a logical step in his commercial growth. But be the reasons what they may, once the germ of going after foreign business finds lodgment in the producer's mind, the next step of putting the idea into action, is bound to follow.

It is at this stage that the would-be exporter turns for advice and counsel to those in touch with the Latin American trade situation,

¹ By Harry O. Sandberg, of Pan American Union staff.



LANDING AT OGOS, GUATEMALA.

The open harbors along the Pacific coast of Central America make it impracticable to build wharves up to the beach, and lighters are resorted to for landing passengers and freight. Exposure to the hot, humid, and sometimes damp atmosphere has its effect especially on foodstuffs, and in the preparation of these for tropical trade the manufacturer must take these elements into consideration. Until he does he can not attain the maximum results in his efforts to win these markets.

and he is pleasantly surprised to find that the bureaus of information and other agencies of trade expansion at his disposal are numerous and authoritative in character; for the widespread interest which has developed throughout the United States in a closer interweaving of commercial and financial relations with the countries of Central and South America has brought in its train information bureaus, foreign trade services, and periodicals devoted exclusively to Pan American matters. In addition, commercial organizations and boards of trade, harkening to the call from their respective memberships for facts and figures concerning these countries, have organized special divisions for the dissemination of such information. Moreover, the activities of the Bureau of Foreign and Domestic Commerce with its district offices, commercial attachés, and commercial agents, the rich fund of consular material, and the work of the Pan American Union, combine to form a mine of official and authoritative sources which for quality and quantity can not be rivaled by the corresponding agencies of any other country.

Then comes the consideration of the general plan for entering these fields, and the manufacturer learns that for reasons of expediency it is best to divide the Latin American territory into convenient geographical groupings, to regard these groups as so many entities, and to focus his attention and concentrate his efforts upon each section separately. Thus, for example, South America could be readily divided into the east coast countries including Argentina, Uruguay, and Paraguay; Brazil may be taken separately or included in this same division; the west coast section would include Chile, Peru, Bolivia, and possibly Ecuador. Colombia, Venezuela, and Panama could also be combined. In the West Indies the Dominican Republic, Haiti, and Cuba would form a natural division; Mexico is worthy of individual attention, while Central America affords a convenient combination of countries.

Following the suggestion of distributing the territory in such convenient groups, the prospective foreign trader will hear a good deal about how to go after the business, actual and potential, available in those lands. He will be told about long credits; about shipping and packing; about the type of drummer not to send and the character of salesman to send; and there will be emphasized the necessity of investigating carefully and studying closely the particular needs of the "to-be-invaded" countries. And Mr. Manufacturer, listening to all this advice, will remark that he has heard these subjects discussed so much and has read so many articles along these very lines that it is like a twice-told tale. And yet the fact remains that these fundamental principles can not be reiterated too frequently nor emphasized too strongly. It is by persistently hammering away at these elementary and rudimentary thoughts that the



RAILROAD STATION AT ESCUINTLA, GUATEMALA.

New railroad, tation call for construction material of many kinds. Where United States capital is interested in development work, the result is usually substantial increases in the volume of imports from the United States. In Central America there are heavy United States investments and in return the latter country enjoys over 50 per cent of the foreign commerce of Central America.



HOTEL BUILDINGS IN CENTRAL AMERICA.

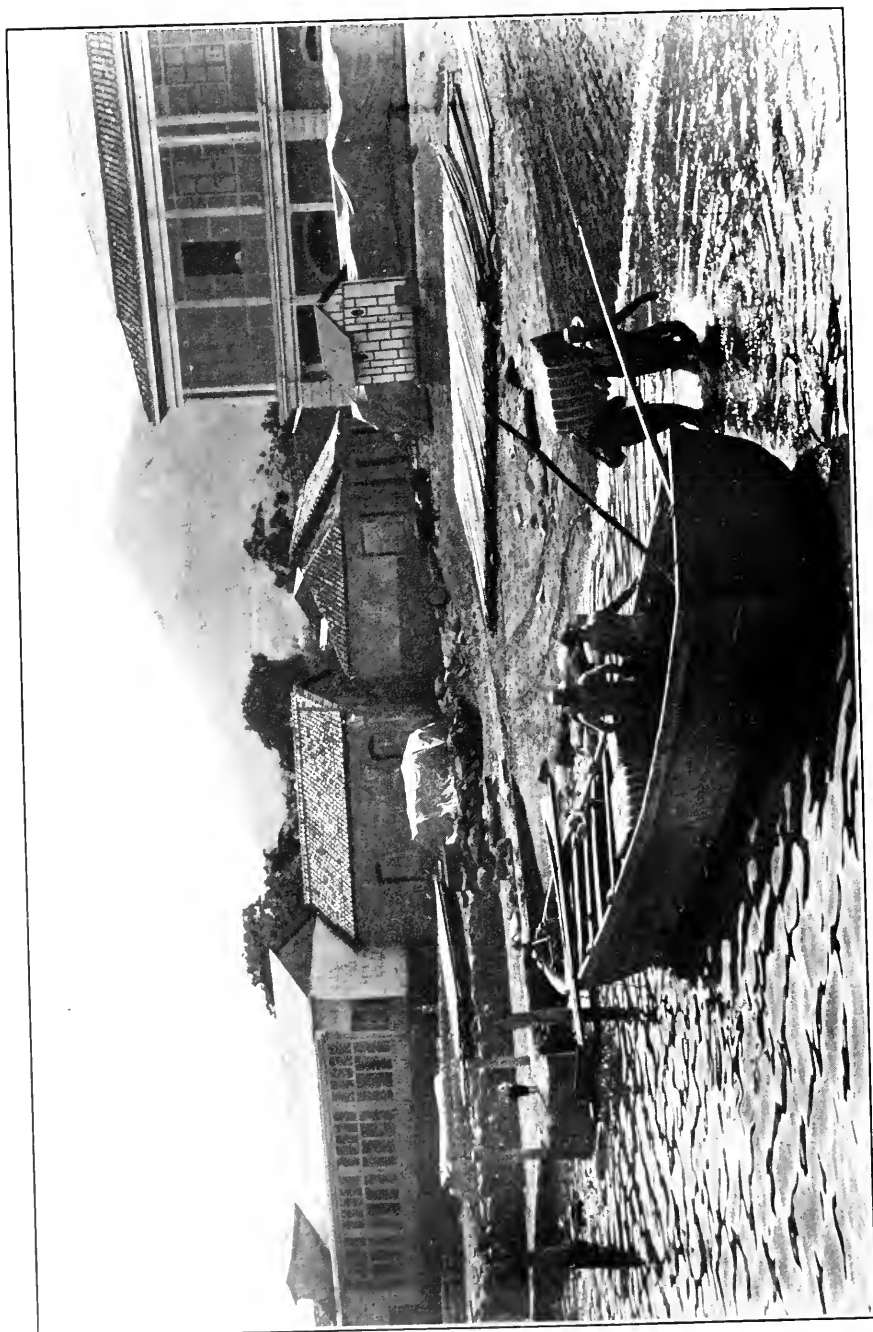
The upper picture shows a typical hotel in a town on the Atlantic coast. The lower illustration is typical of the hotel buildings in the capitals and larger interior cities. These hotels need, of course, enamel and glass ware, cooking utensils, furniture and furnishings, and other ordinary supplies. Frequently they have cafés attached and are the main dispensers of drinks, soft and strong. By studying the peculiar needs of such hostelries there is a field for developing greater business.

American exporter has been awakened to an appreciation of the difference in the conduct of business at home and in Latin America and that he has profited by these admonitions. If the manufacturer contemplating a foreign campaign would only give heed to the warnings of those whom he consults, carrying out the little suggestions which seem to him so unessential and yet which are in many cases most consequential, frequent fruitless attempts to do business abroad would be more fruitful; trips of ill-qualified salesmen would be prevented, and much money spent in the wrong direction would be diverted to appropriate channels bearing profitable results.

And yet the progress that United States manufacturers and exporters have enjoyed in their business relations with Latin America is as remarkable as it is encouraging and significant. In a period of 16 years, from 1897 to 1913, the commerce with those countries increased from \$910,422,499 to \$2,864,876,224, or about 215 per cent. This constant annual increase of over 13 per cent, as shown by the comparison, represents a larger trade development than has taken place in any other considerable part of the world during the same period.

During the year 1913, the last normal year prior to the outbreak of the war, the United States enjoyed a total trade with its sister Republics greater than that of any other nation in the world. And even since the war, though the volume of Latin-American trade has fallen off in its totals, yet in relative terms the United States has made greater gains than has any other country. So it is quite obvious from the results that Mr. Manufacturer has been giving attention to all details.

In reaching out for newer markets many firms adopt the policy of starting near home and working southward gradually, and not a few concerns select Central America as a field of operation. Here is a group of countries, within easy access of the United States, and typical of the countries south of Panama. A four days' sail from the Gulf ports of this country brings one to Guatemala, the northernmost country of the group, and stretching southward are the other countries—Salvador, Honduras, Nicaragua, and Costa Rica. The combined area of Central America is 174,065 square miles, or slightly larger than the combined area of the New England States plus New York, New Jersey, Pennsylvania, and Delaware. Together they have a population of five and a half million peoples. In these countries Mr. Manufacturer will find every variety of climate from torrid heat at sea level to temperate conditions in the higher regions and cold on the mountain heights. He will see natural wealth and resources, practically untouched, in the way of mines, forests, agriculture, and cattle; highway construction, railroad building, and development of hydroelectric power will stand out as potential oppor-



DISCHARGING FREIGHT AT LA UNION, SALVADOR.

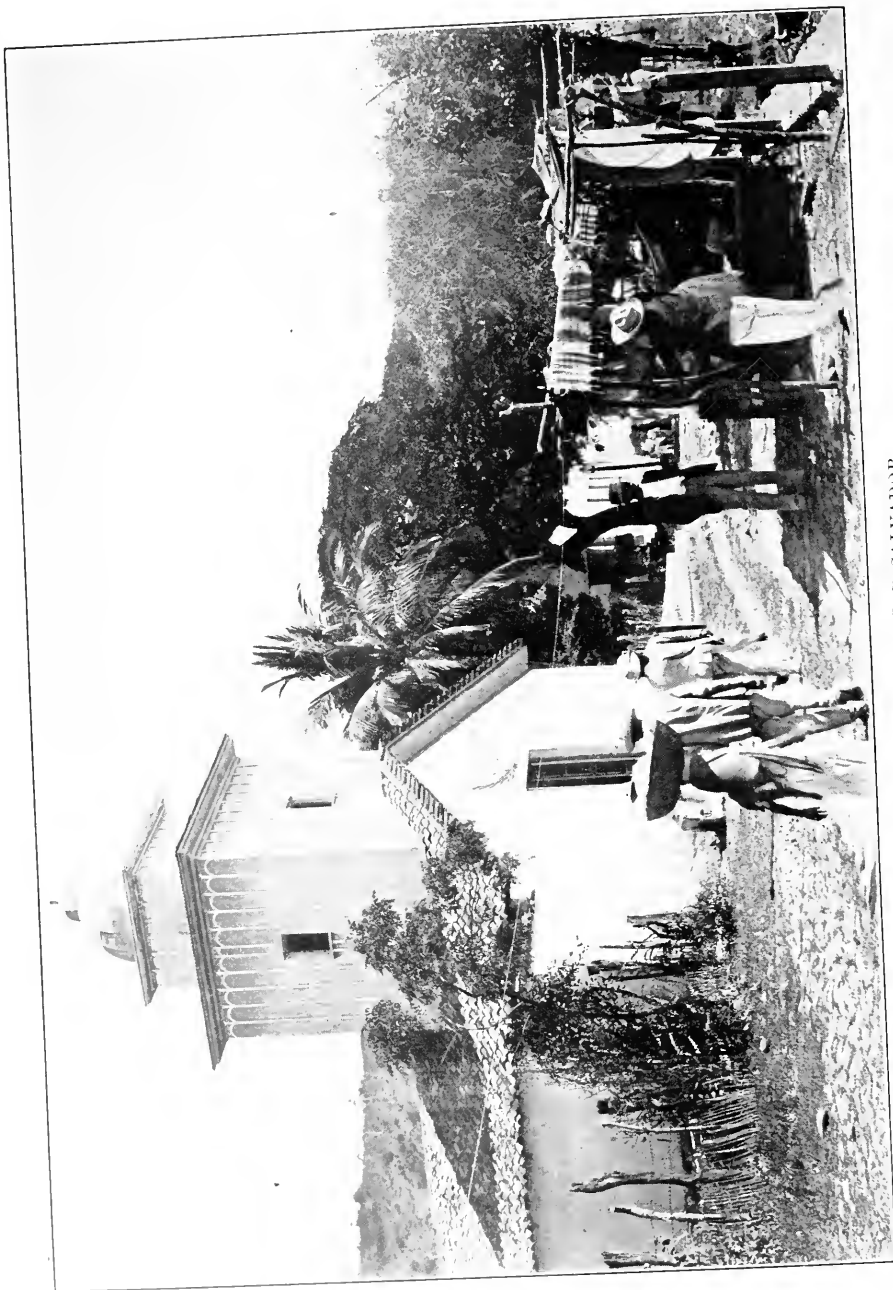
Conditions of this kind emphasize the necessity of giving particular attention to preparing foreign shipments. A sudden downpour or an accidental dropping of a bundle would subject the commodity to a severe water test, and unless unusual care is given to this feature of the foreign shipment satisfactory results will be slow in coming.

tunities for investment. And when he commences to do business he will discover most of the methods, customs, conditions, and individual peculiarities that are characteristic of Latin American trade. Each Republic has its separate laws, tariffs, and customs duties. Each has its own regulations for commercial travelers; some impose a municipal fee, and others require payment of regular customs duties on samples. Enforcement of these rules are not, however, very onerous. While Spanish is the language of all these countries, yet a great deal of English is spoken, particularly by the merchants and bankers. Especially where United States capital is active in development work, English is very generally spoken, and such places present a strange blending of the North American city with a tropical atmosphere and background. So while a knowledge of Spanish is quite desirable it is not an absolute necessity.

But what goods can be sold in Central America? What do the countries need? What do the people use? How big is the market down there? These are natural questions, but not very difficult to answer. To name specifically and categorically all the things and classes of commodities which are used would be to enumerate all the manufactured products of the United States and of Europe. The extent of the market can be judged from the total trade which these countries conduct. In 1913 the foreign commerce reached the sum of \$81,740,558, the exports amounting to \$45,823,504, and \$35,917,054, representing the value of the imports. The United States shared to the extent of \$18,761,159 in their imports and \$17,635,924 in their exports.

In determining the needs of the several countries and the character of goods adapted to their trade one of the chief factors to consider is the location and physical conditions surrounding them. For instance, the class of wearing apparel in a hot coastal town naturally differs from that used in a cool mountain city many thousand feet above sea level. A city with well-paved streets and roads offers a field for motor vehicles, while it would be a waste of time and money to introduce automobiles where adequate road development does not exist. Local conditions must govern and a careful study of each country would develop the salesman into an ambassador of commerce, a type that is most desirable and welcome in the Latin American countries.

While it is impossible to point out all the potential opportunities for each country, still, looking over the field as an entity, various possibilities stand out as being of common interest. All the countries are agricultural. They have soils that are fertile and productive. The big estates and plantations employ modern methods, devices, and machinery. But the thousands of individual farmers still use simple agricultural implements. Here, then, is a chance for



SCENE IN LA LIBERTAD, SALVADOR.

In the interior towns of Central America there are usually branch stores of the important commercial houses of the capital city. These stores need special articles to meet local needs. Once, however, the manufacturer becomes familiar with these wants and caters to them, he is establishing a foothold that will prove valuable.

some cooperative constructive organization work on the part of manufacturers of agricultural machinery. As aptly observed by Special Agent Garrard Harris, of the Department of Commerce, there appears to be a market of tremendous possibilities in this line. The local governments would doubtless receive with favor and assist in the execution of a proposal to go through the country and at various points give actual demonstrations of deep plowing, harrowing, and the proper cultivation of corn, wheat, barley, rice, beans, and other such crops. The countries could thus raise enough of these staples for home use and do away with the present necessity of importing large amounts. A simple lecture in Spanish and possibly an arrangement for placing such machinery within the financial reach of the smaller planter would mean the beginnings of a big business.

Closely allied to such a move would be that of introducing and encouraging the use of cheap and simple sugar-making outfits which would permit the extraction of a larger percentage of juice from the cane. Also an effort could be made to increase the number of American machines in the large coffee estates. Every one of these countries has numerous *fincas* but the majority of them are equipped with European devices.

Since the outbreak of the war there has been much difficulty in securing the jute bags and sacks for the crops, and cotton bags are coming into favor. The Governments are making favorable concessions in the way of duty reductions and a big business is already taking place in this line.

A greater development of agriculture is followed by extensive projects in road building. In fact this is a matter that is engaging the attention of all countries continually. A good deal of such work is done by prison labor and home engineers, but contracts for paving, surveying, and laying out highways are not of infrequent occurrence. Incidental to this development would be measures of sanitation and sewage and the installation of hydroelectric power and lighting plants.

Progress along such lines introduce still other possibilities, particularly that of motor vehicles. Costa Rica, Honduras, Salvador, and Guatemala show increasing use of automobiles and automobile trucks. Of motor cycles there are yet few. Cars that can stand the heavy strain of mountain climbing and rough roads have the best chance in those countries. Autos for pleasure driving as well as autobusses and autotrucks are part of the needs of this territory.

Then again construction material should find a still larger market for with but a single exception there was considerable construction work in all the countries. Wooden frame buildings, detached, and of the bungalow type, are going up at various points. In Salvador, reinforced concrete and poured cement seem to be the favorite style.



WHARF AT LA CEIBA, HONDURAS.

This represents concretely what foreign investments mean. A New Orleans concern is developing vast areas of banana and sugar lands in Honduras. Most of its machinery and many of the higher class help come from the "States." In addition it maintains a steamship service between Honduras and the United States, as well as operates long stretches of railroad to the plantations. This wharf was built by that company. As a company extends its development work so does the volume of business with the United States grow in proportion.

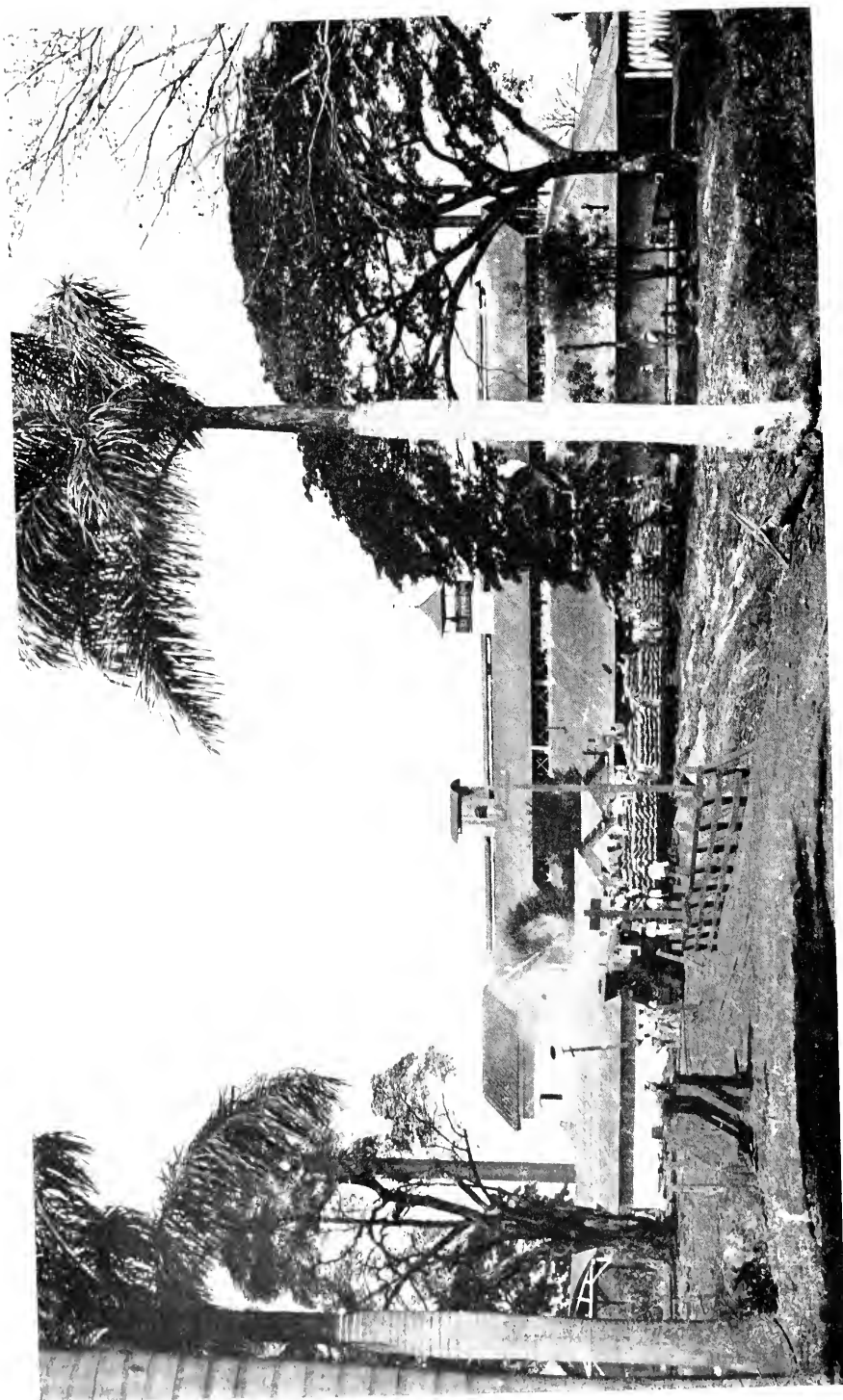
Many buildings have light pressed steel walls with roofs of tin and corrugated iron.

New buildings call for up-to-date furnishings, electrical effects, set plumbing, and interior decorations. Artistic chandeliers and fancy dining room domes should find buyers among the better classes. Heavier articles of furniture are usually made in the country by native cabinetmakers. The variety and attractive character of their lumber enable the home cabinet shops to turn out a highly artistic class of furniture. Yet certain pieces are imported. For example, a great many chairs of the bent-wood cane bottom type are used. These come mainly from Germany and Austria. They arrive in a "knocked down" state and are put together with bolts and screws. Glued furniture does not meet local conditions. It would seem that this is an article worth while competing for. Along with cane chairs furniture people might increase the sales of rattan and wicker tables, settees, tabourettes, and similar articles. With so much out-in-the-open life due to the courtyards in the homes, swings and lounging chairs so common on our big porches might be sold.

In connection with the home it was surprising to the writer to find how scarce victrolas and piano players were in those countries. But few of the homes where the families want for little in the way of comforts or luxuries had these articles. This is especially strange since ever so many homes have pianos and in passing through the streets it is not unusual to hear the sounds of several instruments in the same block—here the strains of an opera, there the melody of some popular song, and in a third the very evident chords of some beginner practicing a lesson.

Anent this subject the writer is of the opinion that if advertising campaigns were organized and conducted in the same manner as they are in the United States the result would be equally gratifying. Such a campaign followed up with the personal representative system would be very effective. A manufacturer thinks very little of spending many thousands of dollars in advertising in this country to increase his sales or even to create a demand for a new article; and yet in foreign fields he believes he has done enough if he has sent a salesman on a cursory trip through a country.

Sporting goods should find increasing sales. The students returning from Europe and the United States bring home new ideas. Baseball is played in all the Central American countries. Rugby is equally popular; tennis, of course. Even golf is attempted, and the writer enjoyed his first round on the links in Tela, Honduras, on an improvised field. While pool and billiard tables may be found in the clubs and in some hotels, little has been done to introduce the parlor table. Bowling is another sport which does not seem to exist



SUGAR PLANTATION FACTORY IN NICARAGUA.

While the big sugar and coffee estates have extensive modern machinery for preparing their product, the small plantation owner still uses simple and even somewhat antiquated methods. A very cheap and simple sugar-making outfit might find a ready market in these countries. Also other agricultural implements would sell if the prices could be kept to a minimum and arrangements made so that the small farmer could purchase them on easy terms.

in Central America. Possibly an alley or two placed in the capital cities might offer lucrative returns.

Ready-made clothing and haberdashery are due for a large development. At present Guatemala and Costa Rica seem to be the only countries where fairly good ready-made clothing may be obtained. The people in these countries have been accustomed to tailored garments, and it will probably be some time before ready-to-wear clothes will assume the popularity they enjoy here. It is the confident belief of the writer that a big boost for the clothing trade and kindred lines would be the establishment of a display room under the joint cooperation of the interested trade associations. Here could be exhibited bright, snappy styles of clothing, and use could be made of those striking advertisements and illustrations that adorn our own street cars and take up so much room in the popular magazines. In such a showroom not only clothes but underwear, hosiery, shirts, bath robes, shoes, and similar lines might be displayed.

Bottling plants exist in many places, manufacturing soft drinks as well as beer. European machinery predominates. The writer recalls meeting a salesman of bottling machinery from St. Louis. It was his initial trip and he did a little business. However, he made known the superior qualities of his apparatuses. If the factory will follow up its salesman's trip with judicious correspondence and within another six months arrange another personal visit, its investment will bring returns. If it is discouraged at the smallness of the business resultant from effort number one, it may have missed its opportunity. Incidentally the writer might observe that a satisfactory arrangement would have been for this firm to have cooperated with some other concern of a correlated line—as, for instance, glass bottles—in sharing the expense of that trip. A great number of bottles of a special class is annually imported from Europe.

Turning to foodstuffs and beverages, there is simply this observation to make: More United States products could be sold if greater attention were paid to the needs of the market. A greater part of the wines and liquors come from Europe, but at present it is difficult to get supplies from there. The time would therefore seem to be propitious for the American manufacturer of wines and brandies to push the sale of his product and establish a permanent foothold. It is even rumored that a good part of the liquors imported from Europe by Central America and bearing the label of European countries are really produced in the United States, sent to Europe in casks, and there bottled, labeled, and sold as of European derivation.

In the matter of mineral waters the writer had difficulty in getting United States brands. At hotels and in cafés he was obliged to drink English or French waters, although he asked for the better known American products. In two of the countries a particular



SCENE IN A CENTRAL AMERICAN COFFEE WAREHOUSE.

Because of the difficulty in securing jute sacks for bagging the coffee, sugar, and other crops, planters are buying cotton bags. With liberal allowances in the matter of custom duties, manufacturers catering to the needs of the agricultural interests are finding a profitable market.

American brand was well advertised and sold everywhere. In three other countries the principal hotels or cafés served European waters but had none of the American.

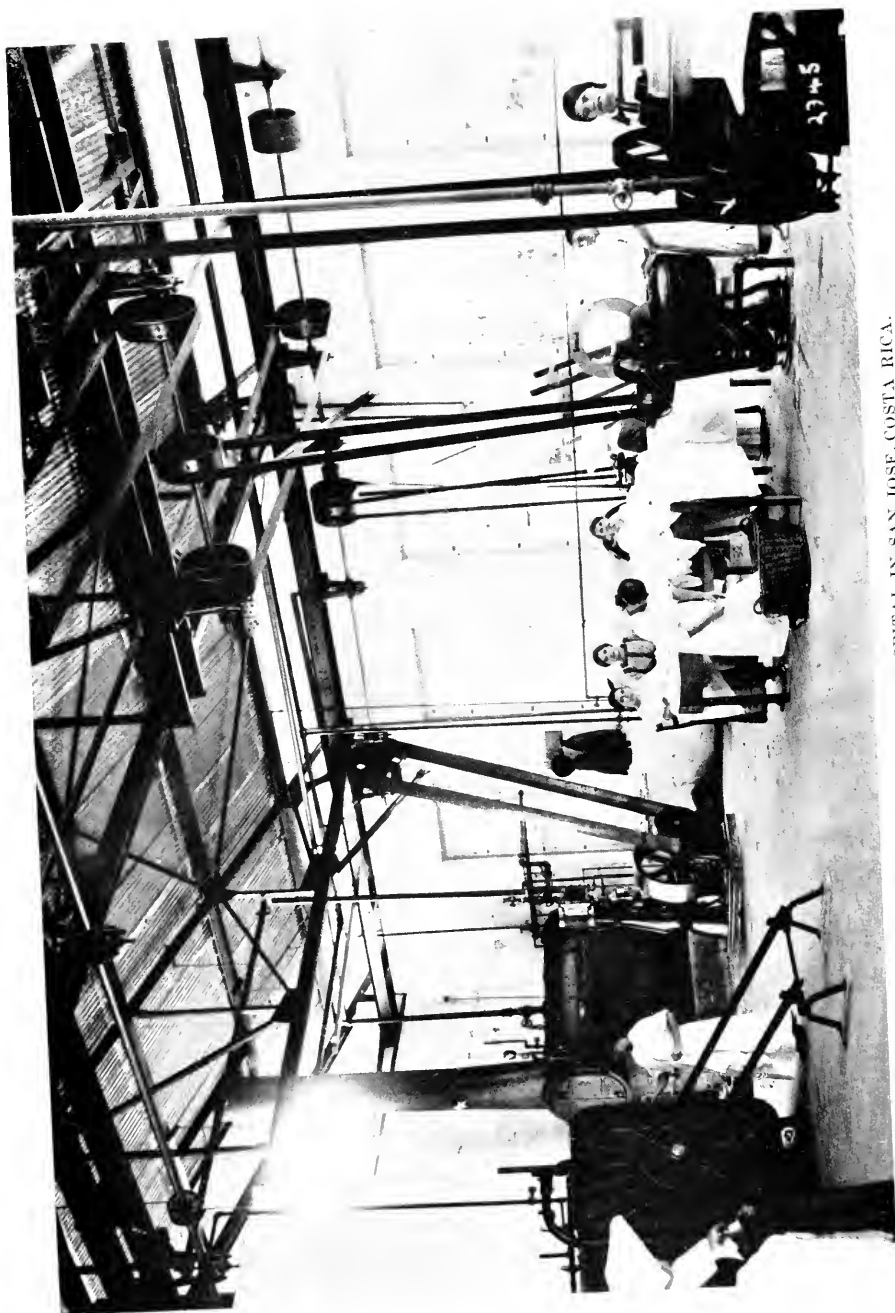
Canned goods, too, should find a broader field. Everywhere the writer noticed a preponderance of the European product. Jams, preserves, canned cherries, apricots, plums, string beans, peas, and other vegetables, salmon, codfish flakes, flaked halibut, crab meat, sardines in tomato sauce—in fine, all classes of foods of this character—ought to have greater sales. Of course, special attention would have to be paid to the packing of these articles and preparing them to withstand certain climatic conditions; but with judicious advertising and a close watch of the market results would warrant the effort.

An example of this kind of attention was noted in connection with confectionery and biscuits. A well-known concern in the United States entered the field seriously. It is making candies to meet conditions. Because of exposure to the moist and warm atmosphere, candies, and especially chocolates, soon become stale, moldy, and lose their consistency. They require special packing in air-tight containers, preferably of tin. In one country a popular ice-cream and confectionery parlor had an attractive display of candy made by this American firm. From the large, fresh stock it continually had on hand it was apparent that the candies were popular. Incidentally it was a profitable business for the proprietor for the writer paid \$2.50 for an ordinary 60-cent pound of chocolates. What is true of candy is likewise true of crackers and cakes. It is now possible to buy an American biscuit in the Tropics and find it fairly crisp and tasty. But in fairness it ought to be said there is still room for improvement to meet the better known European brands.

These, then, represent a few of the more patent opportunities for trade development in Central America. Of course they do not pretend to be the least bit comprehensive but merely indicate certain tendencies in the line of imports in which the United States might share to greater degree than it does at present. Of other articles that might be sold no enumeration can be attempted.

In his very able monograph on Central America as an export field, Special Agent Harris makes a number of valuable suggestions and the writer takes the liberty of quoting from this work certain paragraphs bearing on the future trade possibilities of Guatemala, Honduras, and Salvador. Concerning Guatemala, Mr. Harris states:

It will be many years before Guatemala begins to be independent of other countries for manufactured articles, and some attention to the market on the part of manufacturers of coffee, sugar, shoe, and woodworking machinery (principally hand and foot power), tools, implements, hand looms, rice-cleaning apparatus, irrigation machinery, portable sawmills, and apparatus for utilizing the abundant water power, will undoubtedly result in considerable business.



THE LAUNDRY ROOM OF A HOSPITAL IN SAN JOSE, COSTA RICA.

Machinery of various kinds should find increasing sales in Central America. With the establishment of new institutions and the modernizing of older ones opportunities present themselves for the expansion of business in many lines.

Concerning Honduras, he writes:

Proximity to the United States, good steamship service, and the fact that American business men are learning how to compete with foreign houses, all indicate that the commerce between the two countries will continue to grow and be satisfactory. With the eventual opening up of the country by railroads, there will come a demand for all sorts of machinery, woodworking, mining, agricultural, roadbuilding, electric lighting; equipment for ice factories, railways, and machine shops; iron piping, sewer and drain tile; office equipment; in short, everything required by a developing country of natural richness and resources.

For Salvador he presents the following observations:

It may be noted that the list of imported commodities in which goods of American make form ordinarily a negligible part is quite long, including candles, hats, paper, furnishing and fancy goods, stone and china ware, printed books, wooden goods, and matches. * * * There may also grow markets for American agricultural machinery and implements, and for seeds and fertilizers. A market for road-building and repairing machinery may also be expected, for the roads must sooner or later be developed. There will probably never be many railroads in Salvador, and motor-driven vehicles are the most likely transportation of the future.

THE AFRICAN MAHOGANY, A PROMISING TREE FOR TROPICAL AMERICA ::

THE professional forester in the United States often has occasion, when asked by his tropical American correspondents, to advise them as to the kinds of trees most suitable for planting in their respective localities and to urge them to pay particular attention to the well-known and valuable indigenous trees, such as the mahogany and cedar. The forester never hesitates recommending valuable native trees for shade or commercial planting for the reason that, while it is pretty certain that the climatic conditions must be favorable for the native trees, the attempt to grow trees from a totally different climate is at best often hazardous and attended by great difficulties which cost much time, labor, patience, and money. However, the object of this article is to urge tree planters in tropical America not to devote the whole of their attention to the native trees, but to strive to propagate on a large scale some useful timber trees from other regions of the world.

Among the many species of economical timber trees of West Africa and now occasionally found planted in tropical botanical gardens is the African mahogany (*Khaya senegalensis*), which gives



LEAVES, FRUIT, AND FLOWERS OF THE AFRICAN MAHOGANY TREE.

The African mahogany bears leaves somewhat resembling those of the ash, and clusters of small flowers in panicles. Its fruit is a woody capsule which contains many winged seeds. Owing to the great height of the trees the seed is not easily collected, but they can be obtained through consular officials in Senegambia. They germinate readily, and the young as well as the old trees are remarkably free from disease.



TRUNK OF THE AFRICAN MAHOGANY TREE.

The African mahogany (*Khaya senegalensis*) is a tree indigenous to the tract of country extending from the Atlantic to the Indian Oceans in the tropical parts of Africa, being the most important tree that has such an extensive range in that continent. Its timber has been one of the chief sources of revenue for Sierra Leone, Lagos, Kamerun, Angola, and parts of the Kongo. It is also found in the forest bordering Mombasa River and along the caravan route which leads from Tanga to Masindi in German East Africa. The extensive natural range of the tree leads to the belief that it can readily be extended artificially to include tropical sections of the Americas, and such artificial propagation has already been accomplished in Trinidad, British West Indies.

promise of a suitable and profitable kind for ornamental and commercial planting in the West Indian Islands and on the Spanish Main. It is a tree indigenous to the tract of country extending from the Atlantic to the Indian Ocean in the tropical part of Africa. It is probably the most important tree that has this extensive range of growth in Africa. Its timber has been one of the chief sources of revenue for Sierra Leone, Lagos, Kamerun, Angola, and parts of Congo. It is found also in the forests bordering Mombo River and along the caravan route which leads from Tanga to Masinde in German East Africa. This species occurs also in the Upper Nile region, especially in the sections known as Djur and Nyassaland, but it is rare at this distance from the coast, and in fact is far more abundant in West Africa, where the tree has been exploited for over 30 years. According to authentic literature, the African mahogany is very common in the region of Cape Verde and along the Gambia River, where it is called by English-speaking people Gambia mahogany. In the French provinces the tree is known as cail or cail-cedro. The natives of West Africa have named it hie, jallow, dubina, and oganwo.

The first observations in regard to the distribution of this tree were made by Guillemain and Perrottet in their book entitled "Flora Senegambia." In this work it is stated that Gambia mahogany is among the largest and most beautiful trees along the coast of Gambia and on elevated parts of Cape Verde Peninsula. It is very abundant in the district of Barguy, where it forms the principal stand of the forests. In Senegal this tree is now being planted on a commercial scale by the French, because it produces a very valuable wood, which has attained considerable importance in the trade. Upon the whole, there is scarcely a tree in West Africa which deserves more attention, for when the beauty and usefulness of its wood are taken into account there is no other tree that can compare with it.

The extensive natural range of this tree leads one to believe that it can readily be extended artificially, and such artificial propagation has already been accomplished in Trinidad, where the African mahogany is growing successfully, as shown in the accompanying illustrations. These pictures were taken in 1914, when the trees were just 14 years old. They measured about 10 inches through 3 feet above the ground, and were approximately 40 feet high, which is a remarkable record for a tree yielding such a hard and heavy wood. There is no native tree of equal value that would attain such proportion in so short a time. The tree by nature produces a long, straight stem when planted in a close stand; even in the open, as may be seen from the illustrations, the stems shoot up and the branches appear only at the top. The crown is usually open, and while the tree is young it bends like a whip in times of a gale. For this reason the trees are seldom broken or uprooted by the storm, even when fully



AFRICAN MAHOGANY TREES GROWING IN TRINIDAD, BRITISH WEST INDIES.

The above pictures were taken in 1911, when the trees were just 11 years old. They measured about 10 inches in diameter 3 feet above the ground and were approximately 100 feet high. The tree naturally produces a long, straight stem when planted in a close stand; and even in the illustrations, the trunks shoot up and the branches appear only at the top. The crown is usually open, and while the tree is young it bends like a whip in times of a gale. The trees are therefore seldom broken or uprooted by storms when fully exposed. In its native habitat the tree attains great size, the trunks being often 3 to 4 feet in diameter and, tapering slightly, rise to a height of 100 to 150 feet to the first branches of the crown.

exposed. In its native country the tree attains enormous proportions. Stems from 3 to 4 feet through near the ground and with little taper rise 40 to 60 feet to the first branches. Its rapid growth, adaptability to all kinds of soil and conditions, and straight growth render it one of the most desirable trees for commercial planting in tropical America.

Unfortunately, not so much is known of this tree from a scientific point of view and it is a relatively recent introduction in tropical America, but the chief thing to know now is that the tree will grow and grow quickly into commercial sizes. Under favorable conditions the African mahogany will grow at least $2\frac{1}{2}$ feet per year during the first 14 years. In its native land it is long-lived and often reaches a maximum height of 150 feet. Judging from the character of its growth, the small size of its crown, and the long, straight, clear bole, the trees may be planted close together without crowding them. The yield per acre would, therefore, be very large in comparison with that of Spanish mahogany or cedar, both of which have rather large and somewhat spreading crowns. A typical African mahogany is one of the most beautiful trees and affords a pleasing contrast to the other trees in the Tropics. Owing to the great height of the trees the seed is not easily collected, but they can be obtained through consular officials in Senegambia. They are rather expensive, but they readily germinate, and the young and old trees are remarkably free from disease.

If the object of a plantation is simply wood without regard to kind and quality, it will be advisable to plant eucalyptus or Australian pine (*Casuarina*), for both of these easily outgrow the African mahogany. But there is now and always will be an abundance of wood in the Tropics; the kinds that have a value in the world's markets and have stood the test of time are rare and rapidly becoming scarce and more expensive. The wood of the African mahogany is prized beyond all others as a substitute for the true mahogany of tropical America. In color and grain it resembles the latter, and has other properties that render it exceptionally valuable for making handsome and expensive furniture.



THE PAN-AMERICAN RAILWAY :: :: ::

IN the last 27 years, that is to say, since the countries of the Western Hemisphere have been meeting together periodically to consider subjects and matters of reciprocal interest the idea of the international railway has stood out prominently, and it may be said that from a certain point of view this idea constitutes the hub of practical Pan-Americanism. Not a single one of the American Republics but has given thought to this subject and has made its contribution, within the period mentioned, to a realization of this important project. Also, it is rare that any statesman in considering means for making effective the ideal of drawing together and of mutual respect which is bound up in Pan Americanism, has not given first place to the work in question. It would appear, then, that by common consent the peoples of the three Americas saw in the rails of the projected road indispensable bonds of solidarity and union, as if they contemplated beforehand the column of smoke which from one extreme of the continent to the other will be emitted by the engines running on these rails as the herald of a long cherished wish.

Among the publications that recently have appeared in relation to this subject of manifest opportunity and great moment, figures the work entitled "El Ferrocarril Pan Americano" (The Pan American Railway), by the distinguished Chilean engineer, Don Santiago Marín Vicuña. This work considers the two primary phases of the project, which are its political and economic significance and how to bring it to a successful realization. According to Señor Vicuña, the Pan American Railway is the best corollary of the modern and continental interpretation of the Monroe Doctrine, for in cases of conflicts such as that which to-day throws its shadow over the whole world, all America might come in touch not only in unity of thought and action but in a financial and commercial unity. "An America," says Señor Vicuña, "is to be desired, free in its action, unlimited in its commerce, and respected in its purposes—an America that purveys to itself, an America that moves in its own orbit. And for this is indispensable along with a unity of methods the creation of a Pan-American merchant marine and the completion of the Pan-American Railway, weighty factors not as yet in existence, but which it will be necessary to create at the cost of whatever pecuniary sacrifice."

After setting out in detail what has been done since 1889 toward the realization of the continental railway, the author advances the

opinion that in order to convert the idea into a tangible reality it is necessary to concert an international agreement that shall fix the definite routes of the work and shall indicate the economic means for realizing it, in a word, the formation of an international program of work, of exact standards in routes, gauges, tariffs, etc., which will facilitate and render the work efficient.

For the success of the proposition the writer likewise believes to be indispensable the preparation of a general chart which shall show all the American railways annexed, to which should be a memorial explaining the commercial and political importance of each of the railways and containing likewise the technical features of the same.

Notable are the facts which the writer has brought together in his book regarding the extension of the railways of the several American countries. These facts show that the Pan-American Railway is an accomplished fact as to Canada, the United States, and Mexico.

He shows also that the logical route of the Pan-American road must be subordinated to two important and not parallel conditions, viz, smallest mileage and greatest effective use.

According to the table presented by the author, the three Americas had in operation in 1914, 725,100 kilometers of railways of which the United States, Mexico, and Canada had 640,000. In the other American countries the figures in kilometers were as follows: Guatemala 1,000, Salvador 200, Honduras 200, Nicaragua 300, Costa Rica 800, Panama 100, Colombia 1,200, Venezuela 950, Guianas 300, Ecuador 750, Peru 2,800, Bolivia 1,900, Brazil 26,000, Paraguay 600, Uruguay 3,500, Argentina 34,000, and Chile 9,000.

The author points out sufficiently clearly the route that in his mind the Pan-American Railway should follow. The most notable feature of the plan described by the author in so far as it respects South America consists in placing La Paz, capital of Bolivia, in the splendid position of radiating center of the Pan-American connections going to Peru, Brazil, Paraguay, Uruguay, Argentina, and Chile. The capitals of the countries mentioned are distant from La Paz as follows: Lima via Puno and La Oroya, 1,790 kilometers; Rio de Janeiro via Puerto Suarez, 3,000; Asuncion via Pilecomayo, 1,800; Montevideo via Paysandu, 3,230; Buenos Aires via La Quiaca, 2,640; and Santiago via Baquedano, 2,600.

Bearing in mind the facts which have been published regarding the part of the intercontinental railway already built, the author believes there is no exaggeration in saying that at present there remains only 25 per cent unconstructed, allowing that countries such as Canada, the United States, Mexico, Paraguay, Uruguay, Argentina, and Chile have finished their quotas and that others, such as Peru, Bolivia, and Brazil, have theirs well under way.

As to that part remaining to be constructed, which in the opinion of the author is the most difficult and costly, he thinks it prudent to estimate this at \$35,000 per kilometer, which would indicate an expenditure of \$150,000,000 for the whole unconstructed part.

According to the author the Pan-American Railway, far from being a menace to merchant marine, will be a powerful and efficacious help.

In noticing the work of Señor Vicuña, *THE BULLETIN* improves the opportunity to express to the author the acknowledgments of the Director General of the Pan American Union, Mr. Barrett, for the compliment of dedicating to him this so important and timely work.

PAN AMERICA IN THE MAGAZINES :: :: ::

Cuba's New Rival for Jute is the title of an interesting account in the May number of *The Americas* (published by the National City Bank of New York) of a weed that seems to give great promise as a substitute for jute. The situation in regard to the supply of sacking material used in the marketing of various products has become acute and the recently developed necessity for some cheap fiber to take the place of jute may result in the creation of a new industry for Cuba and other tropical countries where this weed is indigenous. The matter is fully explained in the article herewith reproduced:

The jute bag, or gunny sack, is of great importance in the world's commerce. It is used in world-wide distribution of half a dozen of the "great" commodities, like coffee, sugar, grain, cotton, wool, etc., and in packing of merchandise; and while as packing it is of secondary importance and value in every one of millions of individual transactions in commerce, all the jute used in the world together in a year aggregates so high in value as to put its commercial rank higher than some of the raw materials we hear much more about. India exports over a billion yards of jute cloth a year and over a third of a billion gunny bags, to say nothing of a billion and three-quarters pounds of the raw jute "yarn," and realizes something like \$200,000,000 for it. The leading commercial nations buy jute in immense tonnages, England about 600,000,000 pounds a year, Germany about 300,000,000 pounds, the United States about 220,000,000 pounds, while Argentina, Brazil, and other great producers of raw commodities buy in quantity that costs a very considerable proportion of the amount they receive for the commodities. The war, through disorganization of transportation, has greatly increased the cost of jute bags to these exporting countries, and the matter was of so great importance that Argentina, for one, is expending Government funds in the attempt to find a way to escape the use of jute, which in 1915 cost her over \$7,000,000 more than in the year before.

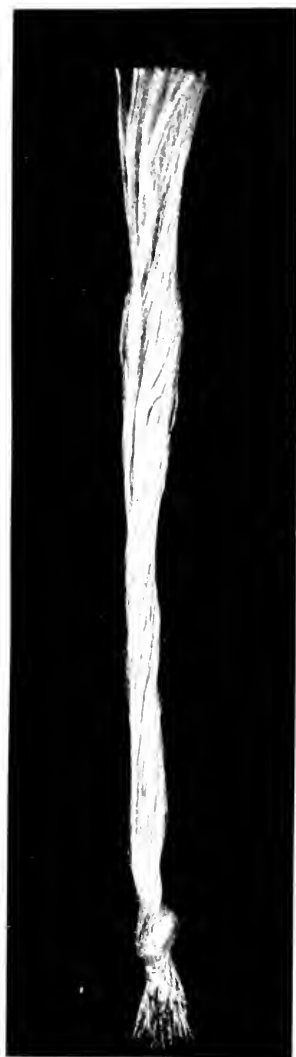
This situation has stimulated the interest of several tropical or subtropical countries in the possibilities of native plants from which fibers that closely resemble jute are obtained. Among these is Cuba, which produces a plant called *mata*, a weed growing



Courtesy of The Americas (New York).

MALVA, A CUBAN RIVAL FOR JUTE.

Samples of this fiber as treated in the rather primitive ways improvised by men cultivating it in Cuba have been examined with much interest by manufacturers of gunny cloth in the United States, and there appears to be a likelihood that it can be employed with success, either pure or mixed with jute, in the making of bags. If this proves true, Cuba has discovered an important new industry as a result of the war. Malva is a weed which thrives in nearly all parts of Cuba and also in certain parts of Central America, Mexico, Florida, and in certain sections of Spain. The above picture gives an idea of the length of the fiber.



Courtesy of The Amereis

MALVA AND JUTE FIBER.

Left: Strands of malva. Center: Malva and jute mixed. Right: Jute fiber. The malva plant grows to a height of as much as 20 feet, but its average height is between 6 and 10 feet, with a stalk half an inch to an inch in diameter, from the bark of which a fiber is obtained having about the same tensile strength as Indian Dacca jute, but much finer and more like flax in texture.

wild in many parts of the island, but cultivated in late years for the fiber, which has a limited use for special purposes already. Samples of the fiber as treated in the rather primitive ways improvised by men cultivating it in Cuba have been examined with great interest by manufacturers of gunny cloth in this country, and there appears to be likelihood that it can be employed with success, either pure or mixed with jute, in the making of bags. If this proves true, Cuba has discovered an important new industry as a result of the war.

There are about 11 species of the plant in Cuba, but the kind known as *malva blanca* (*Waltheria Americana* Lin.) has been found to be the most suitable for the production of textile fiber. This plant grows to a height of 20 feet, but its average height is between 6 to 10 feet, with a stalk half an inch to an inch and a half in diameter, from the bark of which a fiber is obtained with about the same textile strength as the Indian *Dacca* jute, but much finer and more like flax in texture. It is believed that by employing scientific methods in the cultivation and selection of the *malva* plant better results could be obtained both in textile strength and in the fineness and quality of the fiber.

Malva blanca requires a good soil for its cultivation to the best advantage. In reality it is a weed which grows wild pretty much in all parts of Cuba and is regarded by farmers as a pernicious plant interfering with the growth of other vegetation in the localities where it has obtained a foothold; and it is most difficult to get rid of. *Malva* also thrives in certain parts of Central America, Mexico, Florida, and even in Spain, where experiments with it have been made, but it is said that, although some of these other fibers are good, their production per acre would not put the business on as good a paying basis as would the *malva blanca* of Cuba.

A small mill for the extraction and handling of this fiber has been established near the town of Vinales in the Province of Pinar del Rio. The quantity of wild *malva blanca* growing in the Vinales district is very considerable, but in order to establish the industry on a good business basis it would appear to be desirable to make arrangements for its cultivation on a large scale, so as to localize and standardize the work of harvesting, transportation, and handling. For the cultivation of *malva*, the plants are grown from seed sown in rows, and after attaining a height of a few inches the young plants are thinned out, leaving about 44 to the square yard. If planted more widely apart the plants grow too much to branches and leaves.

Seed is collected by hand from the 10th of January to the end of February, and its present cost is about 5 cents a pound. Twelve hundred pounds of seed will plant a caballeria (33½ acres) of ground.

The time for sowing is from March to May, and in three months and a half, when the plants have already attained the height of from 6 to 8 feet or even more, cutting may be commenced. The bark of young plants contains only one layer of fiber, older plants often as many as eight layers. These, however, are much thinner than the single layer in the younger plants, and it is still a matter for study as to the exact age the plant should be cultivated before cutting, in order to give the best results.

Two cuttings can easily be handled in one year without the necessity of replanting, and it is believed that by greater care in cutting, using a corn harvester and binder instead of cane knives, which injure the roots, even more cuttings could be obtained from the same sowing. Cutting can be continued up to about the end of November. In December the plants run to seed.

The land for the cultivation of *malva blanca* is prepared as for any other crop by plowing and harrowing. The plants thrive well under almost any climatic conditions in Cuba, and it is said that heavy rainstorms and cyclones, instead of being injurious, are favorable to its growth and development.

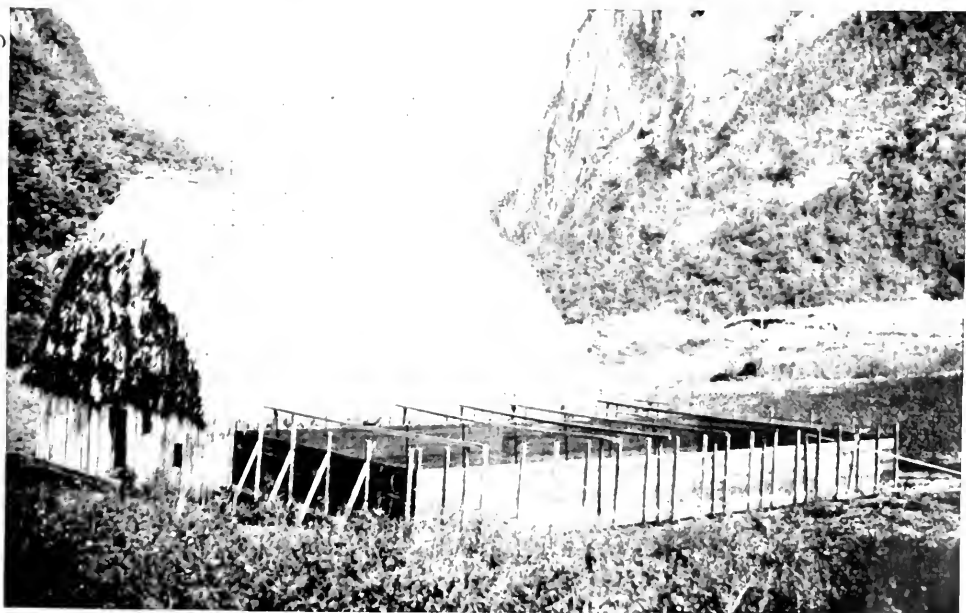
After cutting, according to the present system of handling, the green stalks are loaded in wagons, about 2,500 pounds to a wagonload, and transported to any one of numerous sulphur springs and brooks which abound in this district. Here they are



Courtesy of The Americans - New York.

NATURAL POOL OF SULPHUR WATER IN CUBA.

After cutting the malva stalks they are transported in wagons to any one of numerous sulphur springs and brooks which abound in that section. Here they are deposited in the water and held below the surface with rails and allowed to remain until decomposition has set in, which usually takes from 8 to 25 days. This is called "retting."



Courtesy of The Americans - New York.

TANK FOR "RETTING" PROCESS.

When natural pools of sulphur water are not available, tanks are constructed in which a similar solution of sulphur and potash is used. Only the bark is placed in the tanks, and when the retting process is over the bunches of fiber need only to be hung up to dry and the atmospheric action loosens the remaining particles of lime and bark from the fiber.

deposited in the water, held below the surface with rails, and allowed to remain until decomposition has set in, which usually takes from 8 to 25 days, according to the temperature, warm weather, of course, accelerating the "retting" process.

As these natural pools of sulphur water are not entirely dependable in the dry season it has been found necessary to construct a large tank in which a similar solution of water, sulphur, and potash is used. Added tank facilities are necessary if *malva* is to be cultivated on any extensive scale. The tank is situated near a small barking machine, which has been set up for the purpose of crushing and heating the green *malva* plant, and thus separating the bark from the wood. Only the bark is placed in the tanks. When the "retting" process is over the bunches of fiber need only to be hung up to dry and the atmospheric action loosens the remaining particles of mucilage and bark. After two or three days it is ready to be packed and shipped.

The fiber, having been put into "hands," or in sliver, is ready for shipment, and is packed in open bales of about 400 pounds apiece.

Vinales, which is at present the center of the *malva* industry, is situated about 14 miles from Esperanza, the nearest port on the north coast of Cuba. The cost of transporting by mule wagons is \$3 per ton; of shipment by schooner or coasting steamer from Esperanza to Habana, \$2.50 per ton. This year there is a very good market for this product in Habana, where it is used for making the soles of cloth shoes, universally used by the laboring classes in Cuba and commonly known as *alpargatas*.

At present it is used by a local factory in the manufacture of the soles of slippers and for filling mattresses. This factory consumes about 400 tons of fiber a year, and could use more if obtainable. Sugar bags have been so high in price that the use of *malva* is talked of for the purpose, but the industry has as yet no organization. A 3,000,000-ton sugar crop requires approximately 21,000,000 bags, or about 60,000,000 pounds of jute. The importance of determining the possibilities of the plant are obvious for Cuba alone, to say nothing of other markets. The fiber will undoubtedly be found useful in rope and twine making. It has an extensive use, in its primitive form as produced at home by Cuban natives, for making mattresses.

The Country of the Shepherds, by Prof. Isaiah Bowman, in the June number of the *Geographical Review* (New York), is an interesting study of the topographic, climatic, and ethnographic factors that have influenced the distribution of the population in the Andean sections of Peru. That people of even very primitive character should select permanent habitations at elevations that in some cases exceed 17,000 feet above the sea level—heights at which vegetation is extremely sparse and the cold intense—when pleasanter areas offering much better facilities for the sustenance of life are available, is seemingly a rather puzzling ethnological problem. Prof. Bowman, however, gives a clear and comprehensive explanation of the various factors causing such a state of affairs in Peru, and in the light of geographic comparison the reasons for such an unusual distribution of peoples become plain. In the introductory paragraphs we find some interesting general observations, leading to the study of the particular factors involved in the solution of the problem, such as the following:

The lofty mountain zones of Peru, the high bordering valleys, and the belts of rolling plateau between are occupied by a race of shepherds. In that cold, inhospitable region at the top of the country are the highest permanent habitations in the world (17,100 feet), the loftiest pastures, the greatest degree of adaptation to combined



THE BOTTLE NECK IN LINEAR TIME

perpetrated in 17,000 feet, and that enjoys the distinction of being the highest in the world, was in other respects the same as the thousands of other preserved animals of this A we paid three taxy-beaked children almost as fat as the sheep about them, who were sitting on the ground in a corner of the wood. Hundreds of apple and hickory trees, and the tall, straight, and leafy oaks, showed plainly that they were formerly the forest of the West, where a trickle of water, unpurged a band of pasture. Less than 100 feet below them were other fine black, and I had



Courtesy of The Geographical Review.

TERRACED HILL SLOPES NEAR SALAMANCA, PERU.

"The floor and slopes of the valley are more completely terraced than in any other valley I know of. In the photograph, which shows at least 2,500 feet of descent near the town, one can not find a single patch of surface that is not under cultivation. The valley is simply filled with people to the limit of capacity." (From "The Country of the Shepherds," by Prof. Isaiah Bowman, in the *Geographical Review* for June, 1916.)

altitude and frost. It is here only a step from Greenland to Arcady. Nevertheless it is Greenland that has the people. Why do they shun Arcady? To the traveler from the highlands the fertile valleys between 5,000 and 8,000 feet seem like the abode of friendly spirits to whose charms the highland dweller must yield. Every pack train from valley to highland carries luxury in the form of fruit, coca, cacao, and sugar. One would think that every importation of valley products would be followed by a wave of migration from highland to valley. On the contrary, the highland people have clung to their lofty pastures for unnumbered centuries. Until the conquest the last outposts of the Incas toward the east were the grassy ridges that terminate a few thousand feet below the timber line.

In this natural grouping of the people where does choice or blind prejudice or instinct leave off? Where does necessity begin? There are answers to most of these questions to be found in the broad field of geographic comparison. But before we begin comparisons we must study the individual facts upon which they rest. These facts are of almost every conceivable variety. They range in importance from a humble shepherd's stone corral on a mountain slope to a thickly settled mountain basin. Their interpretation is to be sought now in the soil of rich playalands, now in the fixed climatic zones and rugged relief of deeply dissected, lofty highlands in the Tropics. Some of the controlling factors are historical, others economic; still other factors have exerted their influence through obscure psychologic channels almost impossible to trace. The *why* of man's distribution over the earth is one of the most-complicated problems in natural science, and the solution of it is the chief problem of the modern geographer. * * *

In analyzing the facts of distribution we shall do well to begin with the causes and effects of migration. Primitive man is in no small degree a wanderer. His small resources often require him to explore large tracts. As population increases the food quest becomes more intense, and thus there come about repeated emigrations which increase the food supply, extend its variety, and draw the pioneers at last into contact with neighboring groups. The farther back we go in the history of the race the clearer it becomes that migrations lie at the root of much of human development. The raid for plunder, women, food, beasts, is a persistent feature of the life of those primitive men who live on the border of unlike regions.

The shepherd of the highland and the forest hunter of the plains perforce range over vast tracts, and each brings back to the home group news that confirms the tribal choice of habitation or sets it in motion toward a more desirable place. Superstitions may lead to flight akin to migration. Epidemics may be interpreted as the work of a malignant spirit from which men must flee. War may drive a defeated group into the fastnesses of a mountain forest where pursuit by stream or trail weakens the pursuer and confines his action, thereby limiting his power. Floods may come and destroy the cultivated spots. Want or mere desire in a hundred forms may lead to movement.

Even among forest tribes long stationary the facile canoe and the light household necessities may easily enable trivial causes to develop the spirit of restlessness. Pressure of population is a powerful but not a general cause of movement. It may affect the settled groups of the desert oases, or the dense population of fertile plains that are rooted in the soil. On the other hand, mere whims may start a nomadic group toward a new goal. Often the goal is elusive and the tribe turns back to the old haunts or perishes in the shock of unexpected conflict.

In the case of both primitive societies and those of a higher order the causes and the results of migration are often contradictory. These will depend on the state of civilization and the extremes of circumstance. When the desert blooms the farmers of the Piura Valley in northwestern Peru turn shepherd and drive their flocks of sheep and goats out into the short-lived pastures of the great pampa on the west. In dry years they send them eastward into the mountains. The forest Indian of the lower Urubamba is a fisherman while the river is low and lives in a reed hut beside his culti-



Courtesy of The Geographical Review.

SCENES IN "THE COUNTRY OF THE SHEPHERDS."

Upper: "Village at head of alluvial fan near Lambra." This relation of town to alluvial fan is typical of a large part of the Peruvian Andes. Above are the mountain pastures; below are the better farms of the valley and basin planters. Elevation, 10,600 feet. Lower: "Looking up a sparsely flat-floored glacial trough near the pass in the Cordillera Vilcapampa from 14,200 feet. Note the looped terminal and lateral moraines on the steep valley wall on the left. A stone fence from wall to wall serves to inclose the flock of the mountain shepherd."

vated patch of cane and yuca. When the floods come he is driven to the higher ground in the hills where he has another cultivated patch of land and a rude shelter. To be sure, these are seasonal migrations, yet through them the country becomes better known to each new generation of men. And each generation supplies its pioneers, who drift into the remoter places where population is scarce or wanting altogether.

As an instance of migration to an apparently extremely inhospitable region Prof. Bowman cites the following:

The loftiest habitation in the world is in Peru. Between Antabamba and Cotahuasi occur the highest passes in the Maritime Cordillera. We crossed at 17,400 feet, and 300 feet lower is the last outpost of the Indian shepherds. The snow line, very steeply canted away from the sun, is between 17,200 and 17,600 feet. At frequent intervals during the three months of winter, snowfalls during the night and terrific hailstorms in the late afternoon drive both shepherds and flocks to the shelter of leeward slopes or steep canyon walls. At our six camps, between 16,000 and 17,200 feet, in September, 1911, the minimum temperature ranged from -1° to 20° F. The thatched stone hut that we passed at 17,100 feet, and that enjoys the distinction of being the highest in the world, was in other respects the same as the thousands of others in the same region. It sheltered a family of five. As we passed, three rosy-checked children almost as fat as the sheep about them were sitting on the ground in a corner of the corral playing with balls of wool. Hundreds of alpacas and sheep grazed on the hill slopes and valley floor, and their tracks showed plainly that they were frequently driven up to the snow line in those valleys where a trickle of water supported a band of pasture. Less than a hundred feet below them were other huts and flocks.

Here we have the limits of altitude and the limits of resources. The intervalley spaces do not support grass. Some of them are quite bare, others are covered with mosses. It is too high for even the tola bush—that pioneer of alpine vegetation in the Andes. The distance to Cotahuasi is 75 miles, to Antabamba 50 miles. Thence wool must be shipped by muleback to the railroad, in the one case 250 miles to Arequipa, in the other case 200 miles to Cuzco. Even the potatoes and barley, which must be imported, come from valleys several days' journey away. The question naturally arises why these people live on the rim of the world. Did they seek out these neglected pastures, or were they driven to them? Do they live here by choice or of necessity?

It is these questions that Prof. Bowman answers in 38 pages of interesting text and elucidating diagrams and illustrations.

The Oldest Dated American Monument—A Nephrite Figurine from Mexico, is the subject of a most interesting sketch by Dr. W. H. Holmes in the May number of *Art and Archaeology* (Washington, D. C.). The little figurine described is only about $6\frac{1}{2}$ inches in height and $3\frac{3}{4}$ inches in diameter at its base, and yet, according to Dr. Holmes, it "has come to be regarded as the most interesting and precious of the minor relics of antiquity." It seems that it was plowed up in 1903 by a peon in the district of San Andres, Tuxtla, Mexico, and is now to be found in the United States National Museum at Washington. Descriptions of the various features of the figurine will be found in the legends under the accompanying illustrations. While the design and sculptural excellence of this ancient relic are of interest as indicating the cultural status of its producers, its chief value lies in the glyphs which are engraved on its back, sides, and



Courtesy of Art and Archaeology (Washington, D.C.).

THE OLDEST DATED AMERICAN MONUMENT.

This remarkable little jade figurine is to be found in the archaeological collection of the New National Museum at Washington, D. C., and is described by Dr. Holmes as follows: "It is composed of very hard grayish-green stone, a variety of nephrite or jade, and is about 6½ inches in height and 3¾ inches in diameter at the base. * * * The upper part presents a human head with somewhat pointed bald crown and well-defined though not elaborately carved features. The lower part of the face is covered with a mask-like device, in appearance resembling the bill of a duck or other water-bird, carved in relief and extending down over the chest like a beard. The cheeks are overlaid by a conventional design in relief which lends a genial expression to the face, and discoidal ornaments are affixed to the ears. The idea of a cassock or other loose garment is destroyed when the figure is examined closely, for the bird form is further emphasized by wings covering the sides of the figure, the lower margins of which are carved to represent feathers. Beneath the wings the bird's legs and feet appear engraved in outline."

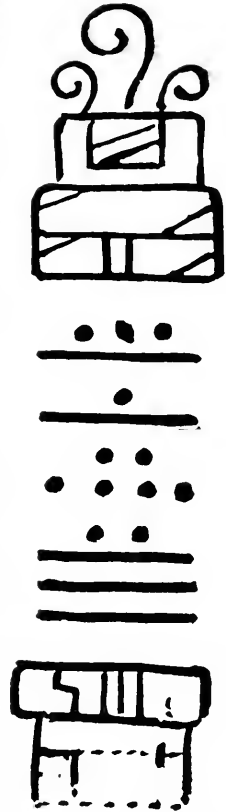
front. The full significance of this feature is brought out by Dr. Holmes as follows:

The specimen derives special value from its chronological significance, although its value as an index of culture status is not to be overlooked. The problems of chronology are among the most important that present themselves for solution to the historian of man in America. The historic period, the period of written history as commonly conceived, begins with the Columbian discovery, although as far back as the year 1000 there occurs an isolated page of written history, the story of the Norsemen, which, however, is not fraught with particular interest to students of the aborigines. The long period antedating the arrival of Columbus is illumined by traditions which carry our knowledge of native affairs back a little way into the shadows. The fossil remains of man and the crumbling remains of his handiwork, although nonpurposeful as records, are even more illuminating, and their study by the paleontologist and the archaeologist is little by little solving the riddle of the prehistoric American.

The written history of America is not confined, however, exclusively to the Old World system of writing, for it is gradually dawning on our minds that the early Americans were a literary people and were perfecting a method of giving permanent form to their interesting history, philosophy, and poetry. Our students are making haste to interpret the many inscriptions which are found sculptured on monuments and embodied in the books that have been preserved to our time. It is found that these writings are not merely pictographic and thus intelligible to students of a strange race only so far as the pictures tell the story, but are phonetic in part, and students are encouraged to believe that an elementary alphabet may yet be found.

There is another phase of these records which offers no little promise to the patient delver into the hidden places of history. The old texts are found to be largely calendaric, and the glyphic symbols for days, months, and cycles are well determined and the dates of sculptured monuments and architectural remains are being read. The skeleton of aboriginal history is thus carried back thousands of years. The exceptional interest centering in this little image is due to the fact that, as read by Mr. Morley, its inscriptions embody the earliest date yet determined in America, a date which corresponds to 100 years before the birth of Christ in our system of chronology. Next to this in antiquity is a small tablet or slab of jade, known as the Leyden stone, the date of which is 160 years later.

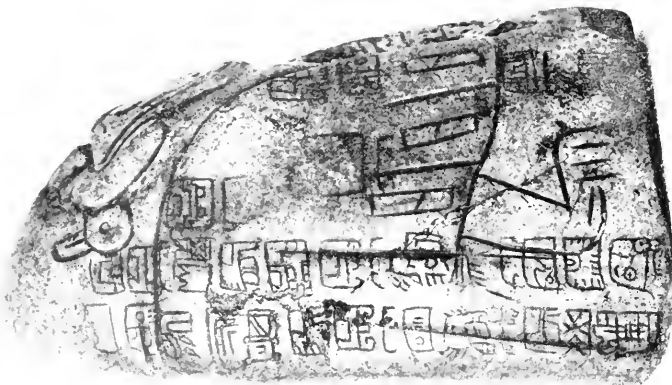
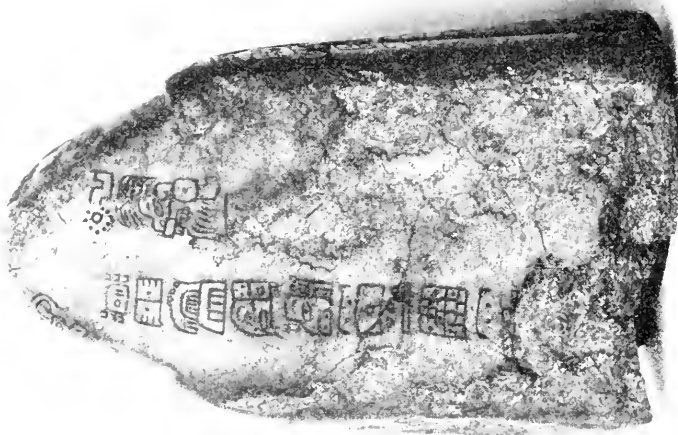
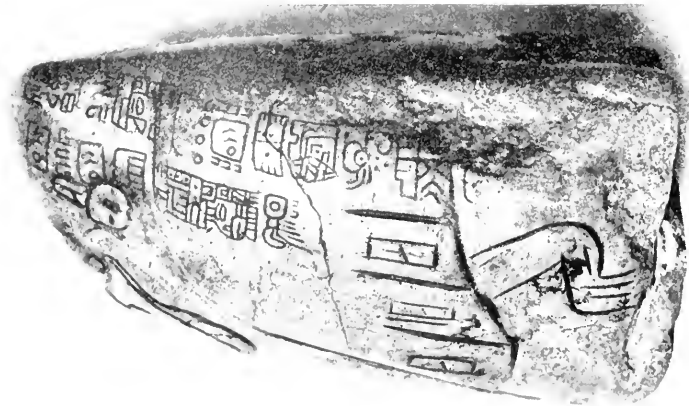
According to inscriptions carved on monuments in Guatemala and Honduras, the ancient cities of the southern Maya area had their greatest development between 200 and 500 years after Christ, while the more northerly centers yield dates coming down to within a few hundred years of the landing of Columbus. These gratifying forward steps in this fascinating field of research are being followed up vigorously by Mr. Morley, who, under the liberal patronage of the Carnegie Institution, of Washington,



Courtesy of Art and Archaeology.

THE MAYAN DATE ON THE TUXTLA FIGURINE.

The date, as it appears on the front of the statuette, according to Morley, consists of an introductory glyph at the top and a series of counters which, interpreted according to the system that has been perfected by long and painstaking researches by a score of students, give the date 100 B. C.



Courtesy of Art and Archaeology (Washington, D. C.)

SIDES AND BACK OF "THE OLDEST DATED AMERICAN MONUMENT."

"The several lines of glyphs on the sides and back of the image can not as yet be read, but they doubtless relate to events of the period recorded on the front of the figure. A chief point of interest in this work is that it establishes the important fact that 20 centuries ago the native peoples of the Vera Cruz region had risen to the stage of culture advancement which is characterized by the invention of writing, the particular step that best marks the transition from barbarism to civilization—a very high stage indeed for a people still within the confines of the stone age." (Dr. W. H. Holmes in Art and Archaeology for May, 1916.)

is now pursuing his studies in regions in which only those who are prepared to endure hardships and encounter dangers should venture.

The Tuxtla statuette is the work of an advanced people once occupying the eastern shores of Mexico. It is therefore surmised, since its glyphs belong to the Mayan system rather than to the Aztec, that in earlier centuries the Mayan dominion extended over the territory now the State of Vera Cruz, and, further, that possibly the Huastecan Tribe now occupying parts of the region is a remnant of the Maya race.

The date, as it appears on the front of the statuette, is shown in the accompanying figure. According to Morley this consists of an introductory glyph at the top, and a series of counters which, interpreted according to the system that has been perfected by long and painstaking researches by a score of students, give the date already mentioned. The several lines of glyphs on the sides and back of the image can not as yet be read, but they doubtless relate to events of the period recorded on the front of the figure.

A chief point of interest in this work is that it establishes the important fact that 20 centuries ago the native peoples of the Vera Cruz region had risen to the stage of culture advancement which is characterized by the invention of writing, the particular step that best marks the transition from barbarism to civilization—a very high stage indeed for a people still within the confines of the stone age. It may be added that the state of culture indicated by this specimen could not have been reached in a brief period, assuming a reasonable rate of development from the most primitive known stage of advancement in America. The time intervening between the stage of simple hunter-fisher culture to the invention of an alphabet may better be reckoned in thousands than in hundreds of years. The exact chronological value of the image can never be known, but the record it bears gives countenance to the view that America has been occupied by the race far back toward the retreat of the glacial ice from the northern border of the United States 5,000 or more years ago.

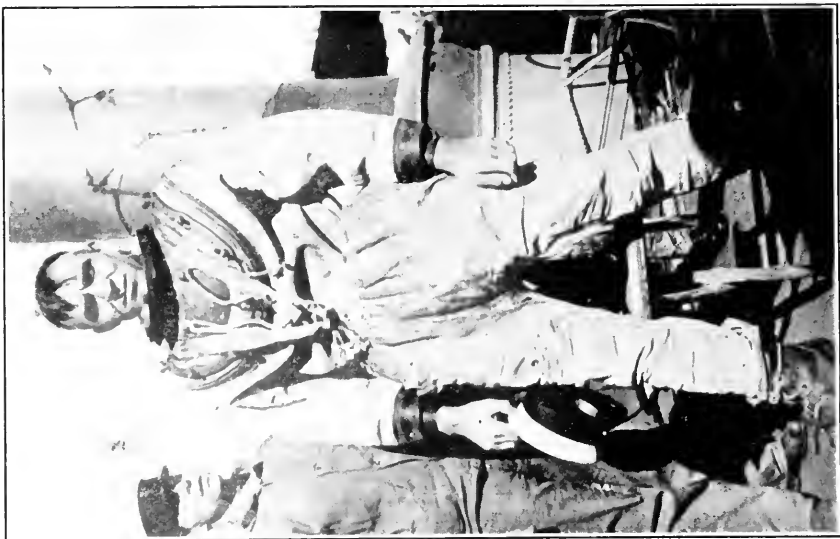
Improvements in Deep-Sea Diving, in the current number of the Spanish edition of the BULLETIN, is an article which deals with the recent progress in deep-sea diving, due largely to the experiments and tests conducted under the auspices of the Bureau of Construction and Repair of the Department of the Navy of the United States. The following is the English version:

Two companies have recently been organized in the United States for rather an unusual purpose. The purpose is to finance operations which are to take place in the depths of the sea, operations which it is hoped by those instrumental in organizing the companies will result in the recovery from the bottom of oceans of much of the wealth that has been lost in remote as well as in recent times by the sinking of ships. One of these companies is called the "Inter-Ocean Submarine Engineering Co.," while the other bears the name of the "Deep Sea Salvage Corporation." From accounts in the daily press it would seem that men of large capital are interested in both enterprises, and if the projects fail to attain their end it will not be because of lack of financial backing.

Certain it is that the project of recovering sunken ships, or the most valuable of the treasures that have gone down with them, is more feasible now than it was only four or five years ago. Such great improvements in diving apparatus have recently been made



Courtesy of the Washington Star.



DEEP-SEA DIVING IN THE UNITED STATES NAVY.

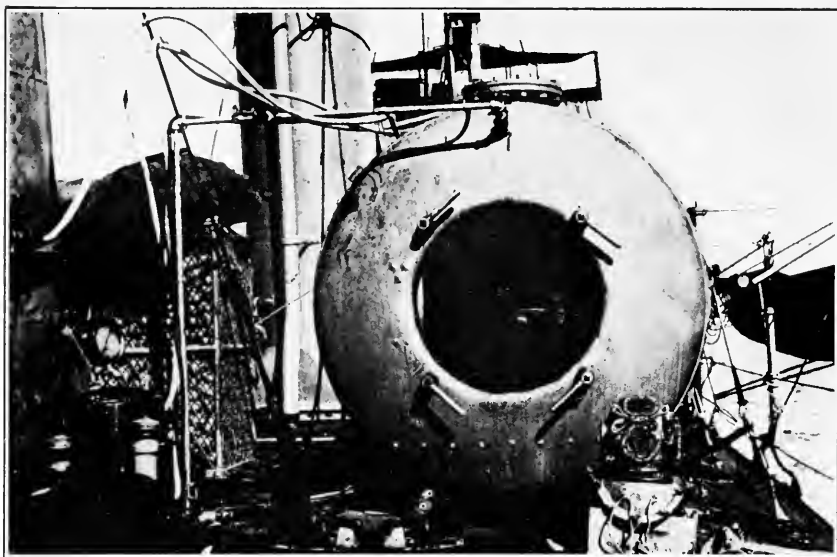
During the deep-sea diving experiments made by the divers of the United States Navy in Long Island Sound in the latter part of 1914, Diver Drellishak reached the bottom at a depth of 274 feet. He remained there long enough to gather some pebbles and a coral-incrusted rock, and then ascended unaided, consuming 1 hour and 20 minutes in making the ascent, and with no ill effects. The photograph to the left shows him emerging from the water unaided; the one to the right was taken immediately after he had reached the deck of the *Albatross*, having broken all previous deep-sea diving records.

that it is now possible for a diver to operate for a limited time even at the great depth of 300 feet below the surface. These improvements are largely due to the remarkable experiments in deep-sea diving conducted under the auspices of the United States Navy and which were not concluded until the later part of 1914. Prior to this time the greatest depth reached by divers was 210 feet. During a series of tests carried on by the British Admiralty in 1907 two English officers succeeded in reaching that depth. For the benefit of those who do not appreciate the difficulties of diving to a depth of 300 feet, it may be stated that at a depth of 10 feet below the surface the pressure is 4.33 pounds per square inch of surface of the body submerged. This pressure increases proportionately and at a depth of 100 feet it has increased to 43.3 pounds, and at a depth of 300 feet the pressure on every square inch of the diver's body is 129.9 pounds.

Notwithstanding this tremendous pressure, the expert divers of the United States Navy have succeeded in not only reaching a depth of 300 to 305 feet, but in remaining at that depth for varying intervals of from 5 to 20 minutes at a time, making examinations and observations in regard to a sunken vessel that made its subsequent salvage possible. This work was done in connection with the raising of the United States submarine *F-4*, which, it will be remembered, plunged to the bottom of the sea just off the harbor of Honolulu on March 25, 1915. Not only did the divers establish a new world's record for deep-sea diving upon the occasion, but the subsequent raising and recovery of the *F-4* is the only instance in history where a sunken vessel was recovered from a depth of 300 feet. And the success of the undertaking is attributable to the experimental work of the Navy.

In order to understand recent improvements in diving appliances a very brief sketch of diving as a useful art may not be amiss. That diving for utilitarian purposes is an ancient activity may be gleaned from a reference in the *Iliad*, where Patroclus compares the fall of Hector's charioteer to the action of a diver diving for oysters—showing that the art was known perhaps a thousand years before the Christian Era. Thucydides mentions the employment of divers during the siege of Syracuse to saw down certain barriers which had been erected below the surface of the water as a protection of the city against the invading fleets. Again, at the siege of Tyre Alexander the Great ordered divers to destroy the submarine defenses of the besieged. The employment of divers for the salvage of sunken property is first mentioned by Livy, who records that in the reign of Perseus considerable treasure was recovered from the sea in this manner.

In these references, however, there is nothing to indicate that the divers were assisted by any mechanical appliances or devices de-



Courtesy of the Washington Star.

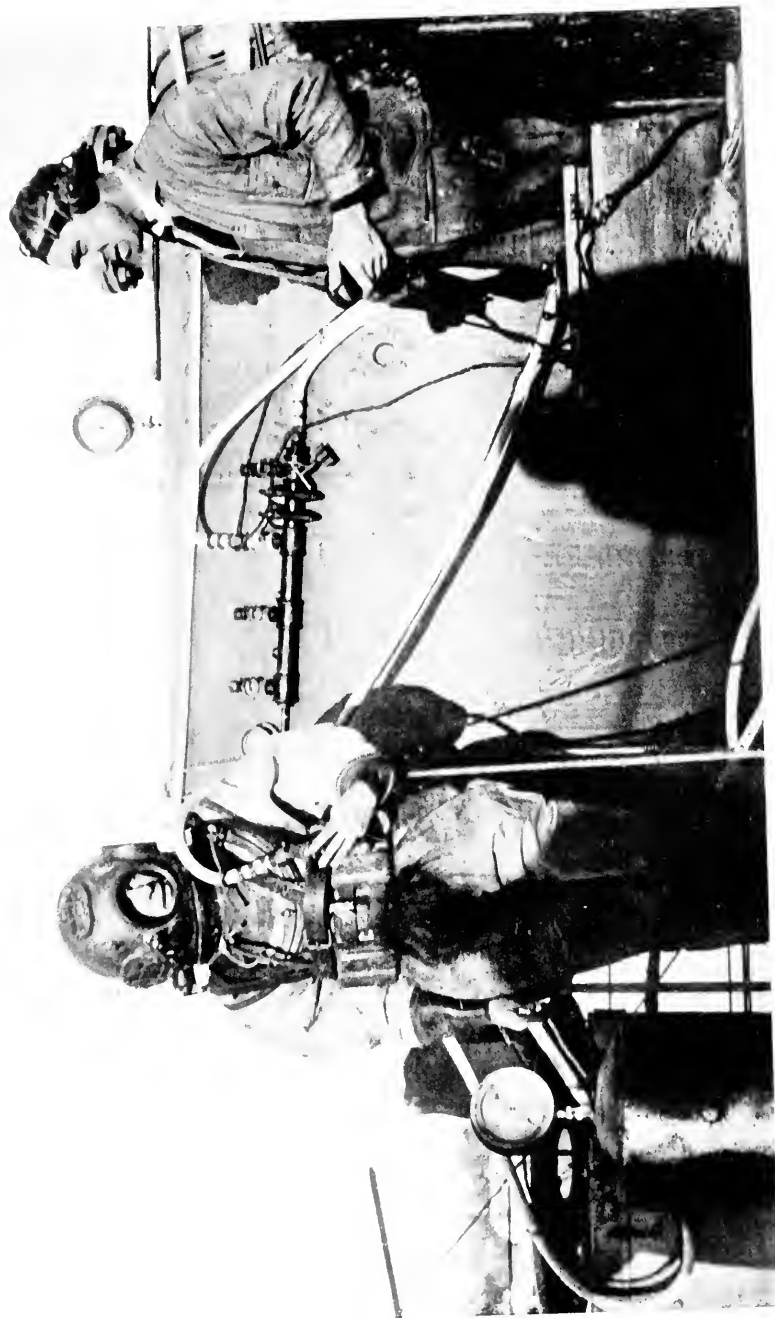
RECENT IMPROVEMENTS IN DEEP-SEA DIVING APPARATUS.

Top picture: The recompression chamber on the deck of the U. S. S. *Walker*. When a diver meets with some accident and is compelled to ascend to the surface too rapidly, he is placed in this chamber and subjected to a pressure corresponding to that of the deep water from which he has emerged and is then decompressed gradually and restored to his normal condition, the illness known as "caisson disease" being thus avoided. Bottom picture: Talking to a diver by means of the newly improved telephone used in the United States Navy.

signed to furnish them air while under water. The earliest mention of any such appliances is by Aristotle, who says that divers are sometimes provided with instruments for respiration through which they can draw air from above the water and which thus enables them to remain a long time under the sea, and also that divers breathe by letting down a metallic vessel which does not get filled with water but retains the air within it. It is also recorded that Alexander the Great made a descent into the sea in a machine called a *colimpha*, which had the power of keeping a man dry and at the same time of admitting light and presumably air. Pliny also speaks of divers engaged in the strategy of ancient warfare, who drew air through a tube, one end of which they carried in their mouths while the other end was made to float on the surface of the water. A record of more recent date is to be found in the British Museum in a 1532 edition of Vegetius's *De Re Militari*, in which is an engraving representing a diver wearing a tight-fitting helmet to which is attached a long leather pipe or hose leading to the surface, where its open end is kept afloat by means of a bladder.

It is needless to enumerate the various modifications of these appliances which were invented from time to time, all of which were necessarily lacking in efficiency until the advent of the air-force pump and vulcanized rubber. In 1819 Augustus Siebe, founder of the English firm of Siebe, Gorman & Co., devised what he called his "open" diving dress. This consisted of a metal helmet and shoulder plate attached to a water-tight jacket, under which, fitting more closely to the body, was worn a combination suit reaching to the armpits. The helmet was fitted with an air-inlet valve, to which one end of a flexible tube was attached, the other end being connected at the surface with a pump which supplied the diver with a constant stream of fresh air. The air, which kept the water well down, forced its way between the jacket and the undergarment, and escaped to the surface on exactly the same principle as that of the diving bell; hence the term "open" dress. The objection to this appliance was that the diver had to always maintain an erect position under water; if he stumbled and fell or even stooped the water filled his dress, and he was in danger of drowning unless quickly brought to the surface. After many experiments Siebe finally, in 1830, perfected his "close" dress in combination with a helmet fitted with air inlet and regulating outlet valves.

It was not until the elasticity and imperviousness to water of vulcanized rubber became known that the modern diving apparatus became possible. This apparatus now consists essentially of an air pump, a helmet with breastplate, a diving dress, a pair of heavily weighted boots, a pair of back and chest weights, and a flexible non-collapsible air tube; also a guiding or life line. Whenever feasible a tank or cylinder of compressed air is used to supply the diver with



Courtesy of the Washington Star.

DEEP-SEA DIVER OF THE UNITED STATES NAVY.

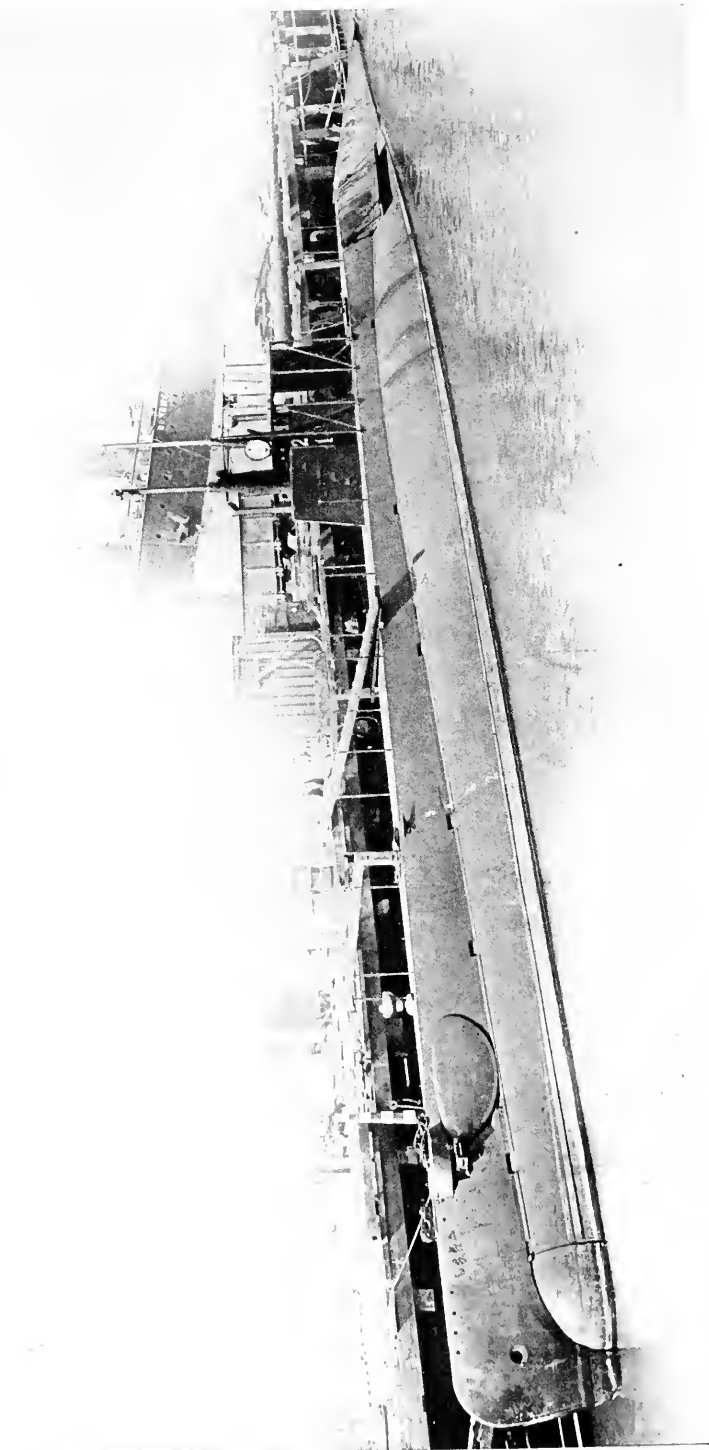
In the picture the diver is indicating with his left hand the location of the air-control valve in the breastplate of the diving suit. Formerly the compressed air was forced down to the diver by means of hand pumps and the supply controlled at the surface, thus necessitating the diver's signaling for the required amount at varying depths. In the new method the air hose is connected with a tank or cylinder of compressed air and the diver, by means of this valve, controls the supply himself.

the needed air, a recent invention of an inlet valve in the breastplate of the diver enabling him to control the supply, instead of the control being at the surface, as was formerly the case.

The helmet and breastplate are made from highly planished tinned copper, with gun-metal valves and other fittings. The helmet is provided with a nonreturn air-inlet valve to which the diver's air tube is connected; the air when it lifts the inlet valve passes into the helmet through three conduits—one having its outlet over the front glass, the others their outlets over the side glasses. In this way the diver gets the fresh air as it enters the helmet, and at the same time it prevents condensation of his breath on the glasses and keeps them clear. There is a regulating air-outlet valve by which the diver adjusts his supply of air according to his requirements in different depths of water. By unscrewing the valve the diver allows air to escape, and thus the dress is deflated; by screwing it up the air is retained and the dress inflated. Thus the diver can control his specific gravity and rise or sink at will. An emergency cock is provided so that he can quickly rid himself of superfluous air in case of need. The helmet is provided with plate glasses in front and on each side to enable the diver to see in three directions. The breastplate attached to the helmet is fitted on its outer edge with metal screws and bands, so arranged that the screws correspond with the holes in the india-rubber collar of the diving dress. This dress is a combination suit which envelopes the whole person from feet to neck. It is made of two layers of twilled cloth with pure rubber between, and is fitted at the neck with a vulcanized-rubber collar, or band, with holes punched in it corresponding to the screws in the breastplate. This collar, when clamped tightly between the bands and the breastplate by means of the nuts, insures a water-tight joint.

The heavily weighted boots and the weights of about 40 pounds each that the diver carries on his back and chest ensure his equilibrium when under water. One of the most recent adjuncts to the modern diving apparatus is the telephonic contrivance which enables him to keep in constant communication with the assistants at the surface, a description of which is not necessary for the purpose of this sketch.

As may be deduced from the above description of the diving apparatus, the diver into deep water is subjected to two pressures, viz. the pressure of the air inside the helmet and suit and the external pressure of the water. As he descends the external pressure of the water increases at the rate of 4.33 pounds per square inch of surface for every 10 feet of descent. When he goes under water any air with which his dress is inflated is driven out through the outlet valve in the helmet by the pressure of the water, so that the dress becomes closely applied to his legs, body, and arms, up to the corselet, or collar, where the dress is joined to the rigid breastplate and helmet. If the valve



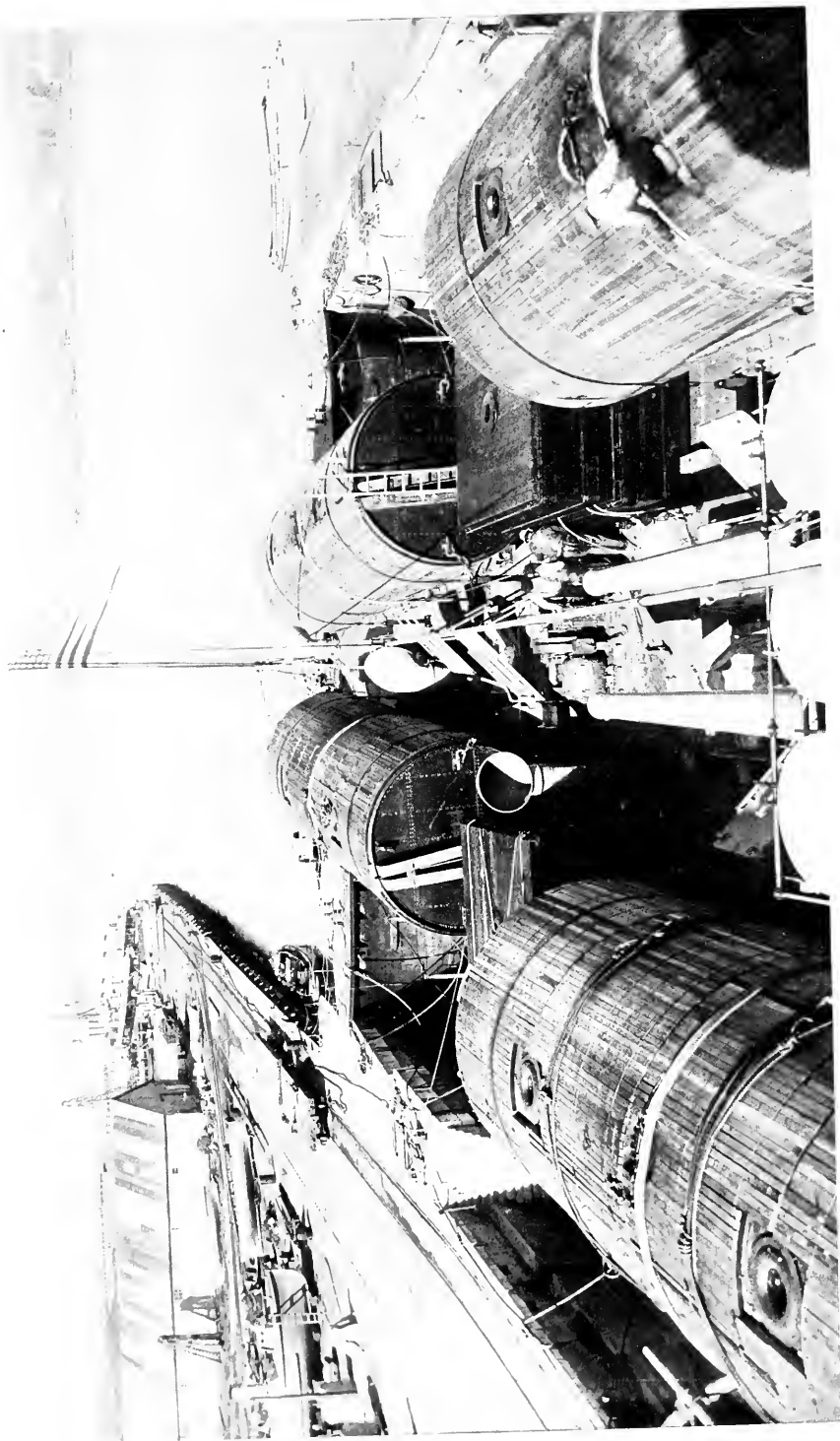
Courtesy of Bureau of Construction and Repair, Navy Department.

THE UNITED STATES SUBMARINE "F-4."

The *F-4*, completed in 1913 and in commission since May 3 of that year, sank beneath the waves off the harbor of Honolulu on the morning of March 25, 1915. Failing to return when expected, the naval authorities at that station at once made efforts to locate her and to attempt to effect a rescue. The vessel was found lying at the bottom of the sea at a depth of about 300 feet. The enormous pressure of the water at that depth, added to the weight of the water which filled her, was such that the strongest lifting lines obtainable were broken in the effort to raise her. The disaster resulted in the death of the lieutenant commanding the vessel and the crew of 20 men. Expert deep-sea divers of the Navy were sent from New York, special lifting apparatus was devised by naval constructors, and the vessel was recovered, with the bodies of the drowned men, some months later. Never before has a vessel been recovered from such a depth.

were kept screwed up so that the dress remained inflated under water, he would not be able to get down. The consequence of the collapse of the dress is that the pressure of the water on all parts of the body below the helmet is greater than the pressure of the air in the helmet. If the valve is freely open, the excess of pressure on any part of the body will be equal to that of a column of water the height of the valve outlet above this part. Thus the external pressure on the chest at the nipple will be about 1 foot of water, or 70 pounds per square foot, above the pressure in the helmet. As the pressure in the lungs is that of the helmet, the diver will have to expand his lungs against this excess pressure, and it is this which so greatly hampers his breathing. In ascending the diver screws up the outlet valve and the constant inflow of the compressed air increases the air pressure in the dress, and when this exceeds the water pressure on the outside the dress inflates and causes him to rise.

The necessity of having the air pressure within the diving dress compensate the external water pressure, thus subjecting the diver to pressures directly proportioned to the depth to which he descends, is the dangerous element in deep-sea diving. At a depth, for instance, of 100 feet, a diver must be subjected to a pressure of 4 atmospheres, or 60 pounds per square inch, in order to compensate the external water pressure of 43.3 pounds per square inch. Exposure to such pressures is apt to be followed by dangerous physiological effects, commonly known as "caisson disease," the symptoms of which include pains in the muscles and joints, commonly called the "bends," deafness, embarrassed breathing, vomiting, fainting, and sometimes resulting in death. They do not appear during the time that the pressure is being raised nor so long as it is continued, but only after it has been removed; and the view now generally accepted is that they are due to the rapid effervescence of the gases which are absorbed in the body fluids during exposure to pressure. Experiment has proved that in animals exposed to compressed air nitrogen is dissolved in the fluids to the extent of about 1 per cent for each atmosphere of pressure, and also that when the pressure is suddenly relieved the gas is liberated in bubbles within the body. It is these bubbles that do the harm. Set free in the spinal cord, for instance, they may give rise to partial paralysis, or in the heart lead to stoppage of the circulation; again, they may be liberated in parts where they do no harm. It has been found, however, that if the pressure is relieved gradually the bubbles are not formed, because the gas comes out of solution slowly and is got rid of by the heart and lungs. To prevent these dangerous effects, therefore, the withdrawal of the air pressure—in other words, the decompression—should be slow. Hence the diver's ascent must be regulated accordingly, and the deeper he has been the slower and longer must be the periods for decompression. It was particularly in regard to the matter of decompression that the experiments and tests



Courtesy of Bureau of Construction and Repair, Navy Department.

THE PONTOON CYLINDERS ON BOARD THE U. S. S. MARYLAND.

The final salvage of the *F-4* was accomplished by means of six great pontoon cylinders, devised by Naval Constructor Forer and constructed at the United States Navy Yard at Mare Island, Cal. These cylinders, 82 feet long and from 11 to 12½ feet in diameter, were sunk in pairs on each side of the submerged vessel, to which they were attached by great steel chains, and when the water was expelled from them by means of compressed air their tremendous lifting power of 420 tons was exerted and the *F-4* easily brought to the surface.

of the United States Navy Department in 1914 led to improved methods, so that a depth of 300 feet can now be reached with safety by an expert diver. The work was done under the auspices of the Bureau of Construction and Repair, under the supervision of Chief Gunner George D. Stillson, whose detailed report on the work, issued in 1915, is the latest word on the subject.

A company whose business is the manufacture of diving apparatus offered the use of a high-pressure tank in their factory at Brooklyn, N. Y., for the purpose of making the so-called laboratory experiments, the tank being converted into an experimental diving station for the time being. The significance of these experiments will be better understood when it is explained that in the tank equivalent depths were obtained by putting air pressure on the surface of the water in the tank, so constructed that compressed air could be admitted to the space between the water and the air-tight top. Thus with very little water, comparatively speaking, they were enabled to reach a pressure corresponding to vastly greater depths. The maximum working pressure of the tank was about 100 pounds, and diving was regularly carried on under this pressure, which corresponds to a depth of over 200 feet in the water of the ocean. During these experiments the divers were constantly under observation by the surgeon and others on the outside who could look through glass-covered portholes in the tank. Various tests of diving apparatus of all kinds were made, new forms of diving helmets, suits, telephones, etc., were tried and experimented with, but perhaps the most important results obtained were in regard to the time of the periods of decompression required to restore the diver to his normal condition after submersion under great pressure.

The tests in the tank were subsequently supplemented by a series of experiments of diving in water of actually great depths. The torpedo-boat destroyer *Walker* was placed at the disposal of the experimenters and was equipped with the necessary apparatus and the tests were made in Long Island Sound. The data obtained from the experiments in the tank were verified, and one diver descended to the bottom of the sea to a depth of 271 feet, remained there for several minutes, collected a quantity of pebbles and a small rock covered with coral growth, and after being under water for 1 hour and 32 minutes emerged safely and without any ill effects whatever. The time consumed in raising him from the bottom and accomplishing the gradual decompression consumed 1 hour and 20 minutes. When the *F-1* sank near Honolulu the same expert divers who had conducted these experiments were sent to that station, where the still greater depth of over 300 feet was reached in the work of recovering that vessel.

During the prosecution of this work an accident occurred which has great significance. One of the divers Loughman by name had

descended to the bottom, and upon attempting to return found that his apparatus had become entangled in such a manner that he was unable to rise higher than 250 feet below the surface. After returning to the bottom he again made the attempt to ascend, but was again stopped at 250 feet. Another diver was sent to his rescue, and he was finally liberated and brought to the surface after he had been submerged for four and a half hours. During this submersion he had been held at a depth of from 250 to 300 feet for 3 hours and 40 minutes. Upon returning to the surface he was at once placed in a compression chamber and again placed under a pressure corresponding to that he had endured, and gradually decompressed. He was very ill for some time afterward, but finally recovered, thus demonstrating the fact that a man can remain at these extreme depths for a long period and with proper means of decompression be restored to a normal condition. Such long-continued submersion, however, is very dangerous and would no doubt result in death in most cases.

The fact that a diver can descend to such depths and direct submarine work makes possible the salvage of ships and treasures that have lain at the bottom of the sea for many years, for many of these are in water that is no deeper. Among such may be mentioned the *Merida*, sunk in collision with the *Admiral Farragut* east of Cape Charles in 300 feet of water, having a cargo of \$500,000 in silver bars, \$300,000 in gold, and perhaps \$200,000 worth of valuables in purser's safe; the *Lusitania*, torpedoed May 7, 1915, 12 miles south of Kinsale, Ireland, in 270 feet of water, carrying at least \$1,000,000 in gold and jewelry and several millions in securities; the *Oceana*, sunk off Beachy Head, March 16, 1912, with \$5,000,000 in gold and silver, part of a Chinese loan; the *Islander*, sunk in 320 feet of water near Juneau, Alaska, with \$2,000,000 in gold; the *General Grant*, wrecked on coast of Auckland Islands in 1866, in 80 feet of water, carrying \$15,000,000 in gold bars and bullion; the flagship *Florentia*, lost in Tobermory Bay, off the west coast of Scotland, with \$15,000,000. Among the more ancient wrecks which carried treasure may be recalled the Spanish galleon *Santa Margarita*, which, in 1597 sailed from Santo Domingo with \$7,000,000 on board and was wrecked in Mona Passage near Porto Rico; also the famed fleet of 17 Spanish galleons, loaded with treasure worth \$140,000,000, collected in South America and the West Indies, attacked by the Dutch and English fleets in Vigo Bay, Spain, and sunk by the Spaniards to prevent their falling into the hands of their enemies. It is said that 6 of these were subsequently raised and about \$20,000,000 recovered, but the others, with their \$120,000,000 of treasure, still lie at the bottom of the bay. In view of the recent accomplishments of the divers of the United States Navy, may not the dream of recovering much of this lost treasure become a reality?

BOOK NOTES

The Rubber Industry of the Amazon. Based on the experiences of Joseph F. Woodroffe, edited by Harold Hamel Smith, editor of *Tropical Life*. John Bale, Sons & Danielsson (Ltd.), London. 1915. 435 pages.

The foreword to this most interesting and important volume is contributed by the Right Hon. Viscount Bryce, a fact tending to indicate the seriousness with which the book deals with the problem of rubber extraction.

The main purpose of the volume is to show how the supremacy of the rubber industry of the Amazon can be maintained and consolidated in spite of the increasing competition to which it has lately been subjected by its Eastern rival. Furthermore, it tells how Brazilian rubber jungles may be exploited without harming English investments in Ceylon, Malaya, and other parts of the world. According to the book, neither must nor will suffer, and this is as it should be, for while it is unthinkable that plantation rubber should decrease it is equally impossible for England to allow her investments in Brazil, amounting to more than a billion and a half dollars, to lapse into inactivity.

For the man of commerce, the tourist, or the traveler in general, the book offers much interesting reading, as it brings to light many phases of life and conditions in a section of the world just now being investigated more thoroughly than ever before.

Latin-American Opportunities for the South.

This is an interesting semimonthly booklet carrying much general information on Latin American topics. It is edited by Mr. Charles Lyon Chandler, formerly of the United States consular service, but who now holds the position of South American agent of the Southern Railway and allied lines, with headquarters in Chattanooga, Tenn. Mr. Chandler's long residence in South America, coupled with his extensive investigations in various parts of the continent, especially qualify him for the work recently undertaken. The publication contains 16 pages and is filled with live matter eminently suited to the manufacturer who is cultivating Latin American markets.

Railway Expansion in Latin America. By Frederick M. Halsey. Moody Magazine & Book Co., New York. 1916. 171 pages. Price, \$1.50.

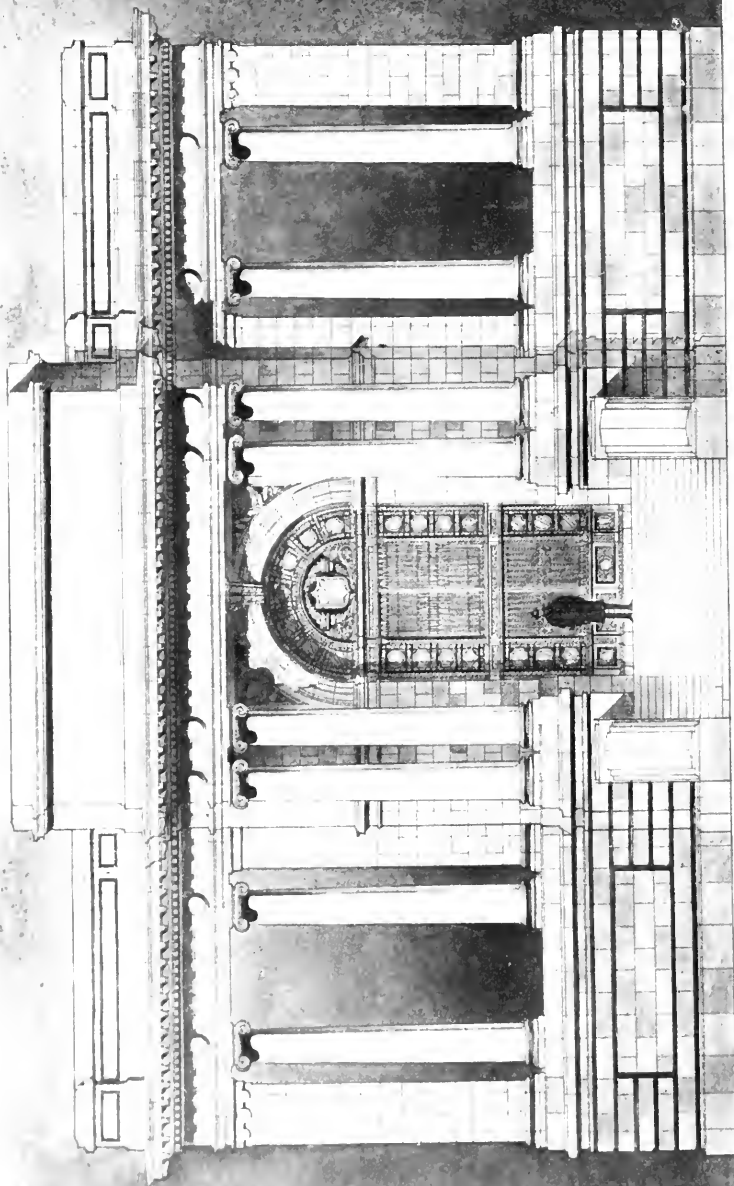
This little work is the outgrowth of a series of articles contributed by the author to a popular magazine during the years 1914 and 1915. It might be termed a companion volume to one of a somewhat similar nature written by Mr. Halsey and published a few years ago.

The present book considers the progress of railways in each of the countries of Latin America, and voices the writer's opinion that in the future there will be far more capital from the United States seeking profitable ventures in Latin America than ever before. The railway mileage of each Republic, the earnings, proposed lines, distances, and many other important facts in connection with transportation, especially from the point of view of the capitalist, are weighed and considered.

The book will be of service to all persons interested in transportation and in dealing with the countries of which it treats. There are 41 illustrations and 4 maps.

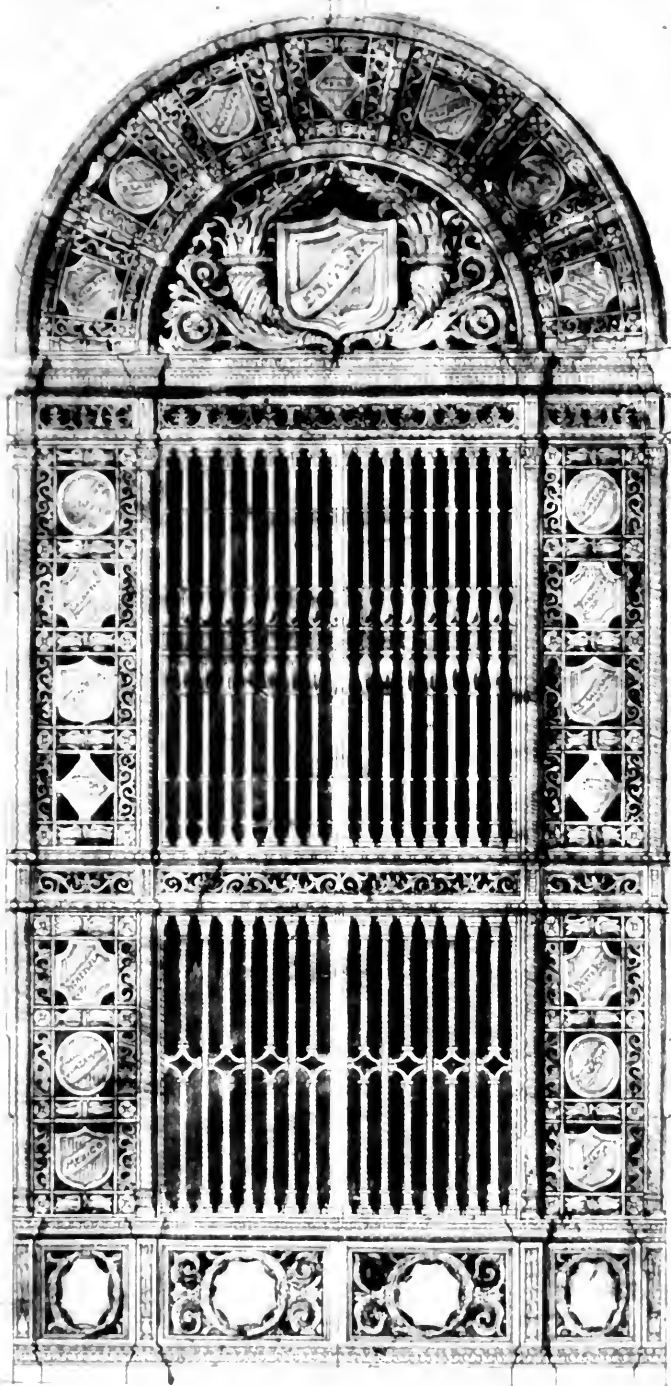
Argentine Railways. By Leopold Grahame. Rensselaer, Lyon & Co., New York. 1916. 36 pages.

This is an interesting booklet or a general review of the Argentine railways, showing their position, conditions, and prospects. The matter was written by a former editor and proprietor of the Buenos Aires Herald, a fact that commends the booklet as being authoritative and reliable. Mr. Grahame resided for years in Argentina, and what he says is based on first-hand information. The short chapters on "Attraction of foreign



A MONUMENT TO CERVANTES IN NEW YORK.

The Hispanic Society of America, New York, of which Mr. Archer M. Huntington is the president and founder, has recently made provision for the erection of a magnificent marble and bronze monument to commemorate the life and work of Miguel de Cervantes Saavedra, the immortal author of Don Quixote. The monument is to be in the form of a massive portal and archway at the entrance of the society's fine home on Broadway and One hundred and fifty-sixth Street. The design is by Mr. Charles F. Huntington and in its general lines follows the beautiful examples of similar architecture of the Spanish renaissance period. The monument is to be 110 feet long and about 55 feet high in the central portion.



DOORWAY OF THE CERVANTES MONUMENT

The central feature of the Cervantes monument to be erected in New York by the Hispanic Society of America consists of a massive bronze door, weighing 2 tons, and having a height of 20 feet and a width of 12 feet. The elaborate ornamentation includes the coat of arms of Spain at the center of the locking arch, while the shields of all the Spanish-speaking countries of the New World will be arranged in a complete border about the splendid portal.

capital" and "Protection of foreign interests" will appeal strongly to those who have funds available for investment in foreign countries. In 1895, according to the writer, about one billion dollars of foreign capital was invested in Argentina; at present the amount is approximately three times as much.

Chile To-day (Chile al Dia).

This is the title of a new publication which will be issued monthly in Santiago by Hume & Walker. The first edition contains about 15 large illustrations depicting Chilean life, customs, scenery, and activities. Under each picture there is descriptive matter in five leading languages, which fact places the publication on an equally interesting basis far beyond the boundaries of the country in which it originates. The new journal should be an important factor in making Chile better known to the world.

SUBJECT MATTER OF CONSULAR REPORTS.

REPORTS RECEIVED UP TO JULY 1, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
Parcels post service	1916, Jan. 18	W. Henry Robertson, consul general, Buenos Aires.
Classification of petroleum and products for customs tariff purposes.	Apr. 28	Do.
Argentine State Railways (report for 1915)	May 6	Do.
Annual report on commerce and industries for 1915	do.....	William Dawson, jr., consul, Rosario.
Bulletin of foreign trade, 1913-1915	May 17	W. Henry Robertson, consul general, Buenos Aires.
BRAZIL.		
Drainage for city of Parahyba	May 5	A. T. Haerberle, consul, Pernambuco.
Commerce of Brazil for the first three months of 1916	May 15	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Market for American marble and granite	do.....	Do.
CHILE.		
Annual report on commerce and industries for 1915	Apr. 25	Thomas W. Voetter, consul, Antofagasta.
Customhouse returns during first quarter of 1916	May 1	L. J. Keena, consul general, Valparaiso.
Market for American marble and granite	May 2	Do.
COLOMBIA.		
Annual report on commerce and industries for 1915. (Cartagena).	May 25	Leonard Blake Modico, vice consul, Cartagena.
COSTA RICA.		
Annual report on commerce and industries, 1915. First section..	Apr. 22	Samuel T. Lee, consul, San José.
Market for paper bags in Costa Rica	May 8	Do.
Annual report for 1915. Second section	May 15	Do.
Annual report for 1915. Second section	May 29	C. Donaldson, consul, Port Limon.
CUBA.		
Invention of new implement for cane cultivation	June 6	Henry M. Wolcott, consul, Havana.
Cuban mattresses	do.....	P. Merrill Griffith, consul, Santiago.
ECUADOR.		
Law regulating insurance companies in Ecuador	May 4	Frederic W. Goding, consul general, Guayaquil.
Regulations for study and practice of dentistry	May 11	Do.
Call for bids for water supply for Tulcan	May 23	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to July 1, 1916—Continued.

Title.	Date.	Author.
HAITI.		
Annual report for year ending December 31, 1915	1916. Jan. 20	M. Fontaine, consular agent Aux Cayes.
MEXICO.		
River transportation in State of Tabasco	May 13	Thomas D. Bowman, consul Frontera.
Exports of logwood from Frontera	do.	Do.
PANAMA.		
Motor vehicles	May 12	A. G. Snyder, consul general, Panama.
Imports into Panama during January, 1916	May 18	Do.
Statistics of liquor business during 1914-15	May 19	Do.
PARAGUAY.		
Market for American marble and granite	do.	Samuel Hamilton Wiley consul, Asuncion.
PERU.		
Increased Peruvian customs revenues	May 12	William W. Handley, consu general, Callao.
Introduction of modern typesetting machine	May 17	Do.
VENEZUELA.		
List of schools and colleges	May 19	Geo. K. Donald, consul Maracaibo.
Telephone company of Maracaibo	June 5	Do.
Beer production in district	June 6	Do.

ARGENTINE REPUBLIC

The Argentine Congress has ratified the election of Hipolito Iri-goyen and Pelagio Luna as President and Vice President, respectively, whose term of office will begin on October 12, 1916. According to the Argentine constitution, the President and Vice President hold their offices during a term of six years, but neither can be reelected until after an intermission of a full term.——The last NATIONAL CENSUS taken on June 1, 1914, according to figures published in *La Nacion* and *La Prensa* of May 23, 1916, daily newspapers of the Federal capital, shows that on June 1, 1914, the population of the Argentine Republic was 7,885,237 against 3,954,911 by the census of 1895, by comparing which it is seen that the population of the nation has doubled in the last 20 years. Of the 7,885,237 inhabitants of the country, 5,527,285 are Argentinians and 2,357,952 are foreigners. The population of the national Territories increased from 103,369 in 1895 to 358,738 in 1914.——In 1915, the SALES OF REAL PROPERTY in the States and Territories of the Argentine Republic aggregated 5,960,534 hectares, valued at 220,184,820 pesos Argentine currency (Argentine paper peso equals \$0.43), which shows an increase of 5.07 per cent in area sold as compared with 1914. The

greatest increase in sales occurred in the Provinces of Mendoza, Santa Fe, and Buenos Aires. In the 10 years from 1906 to 1915 the sales of real property in the Argentine Republic aggregated 85,497,642 hectares, valued at 2,732,830,378 pesos paper.——With an increase of 11,300,551 gold pesos during the first five months of 1916, the total GOLD RESERVE held on May 1, 1916, in the conversion office and Argentine legations in foreign countries aggregated 316,-756,599 pesos, the largest gold reserve ever held by the Argentine conversion office, which was established on October 31, 1899. Against this reserve the paper, nickel, and copper money issued totaled 1,012,-919,524 pesos paper.——According to the recent MESSAGE of the governor of Cordoba read before the legislature, the revenues of that Province have steadily increased since 1912, increasing from 9,698,464 pesos in 1914 to 9,988,251 pesos in 1915. The expenditures of the Province have never exceeded those prescribed by the budgets.——The first 100 kilometers of the RAILWAY LINE of the Argentine Central from Peyrano to Rio Cuarto was recently opened to public service.——According to the report of the Argentine POSTAL SAVINGS BANK, which was established on April 5, 1915, during the 1 year and 25 days of its operation up to May 1, 1916, the total number of depositors aggregated 97,044, and the total deposits 4,541,463 pesos national currency. The total number of agencies in operation throughout the Republic was 884, and in 1915 there was an average of 29.39 pesos for each depositor. In 1916 the monthly averages for each depositor were: January, 54.81 pesos; February, 60.47 pesos; March, 65.02 pesos; April, 52.98 pesos.——The executive committee of the FIRST NATIONAL MEDICAL CONGRESS, to be held in Buenos Aires in September, have made some minor changes in the projected program and have added some important themes for discussion by the Congress.——Negotiations are now under way between the Argentine Government and a colonizing company for establishing on the Government lands in Argentina a large AGRICULTURAL COLONY of over 1,000 settlers from the United States. The Argentine minister of the department of agriculture desires to turn the land over direct to the settler, to avoid speculation.——The Argentine Government has appropriated 2,000,000 pesos to be distributed throughout the Republic and expended in useful works in commemoration of the centennial celebrations. Only one-half of the APPROPRIATION will be spent in 1916, the rest being reserved until the completion of works now being undertaken. — On May 2, the new HIGHWAY from Cordoba to Las Cumbres, more than 100 kilometers in length, was opened to tourists. It is one of the best scenic routes in the Republic, crossing the mountains of Cordoba at an altitude of 2,210 meters in some places. — A NATIONAL CONGRESS OF ENGINEERING will be held in Buenos Aires in July, for which an

extensive program has been prepared, including the discussion of the construction of roads and waterways, and all subjects pertaining to hydraulic, agricultural, and electrical engineering. — A DELEGATION of business men under the chairmanship of Mr. James A. Farrell, president of the United States Steel Corporation, is at present visiting Argentina with a view to studying conditions there and promoting trade between the two countries. — In response to invitations sent out by the organizing committee of the AMERICAN BIBLIOGRAPHICAL AND HISTORICAL CONGRESS, to be held in connection with the centennial celebrations, all of the American nations and Spain have signified their intention of participating and cooperating in its work. — To commemorate the centennial celebrations, the Buenos Aires Jockey Club has presented the Association of Charities of Tucuman with the sum of 100,000 pesos for building a SCHOOL FOR WORKMEN to be called the Buenos Aires Jockey Club School, and to be located opposite San Martin Square in Tucuman. — A North American syndicate with a capital of \$2,000,000 has asked for certain concessions in the Province of Buenos Aires with a view to locating a large plant there for the manufacture of Portland CEMENT on a large scale. — An important ART EXPOSITION was opened in Cordoba on May 7, 1916. The exhibits in old paintings, tapestries, and colonial carpets were especially noteworthy. — According to the recently published official CATTLE CENSUS of the Province of Buenos Aires, that Province has 11,336,513 cattle, 18,528,641 sheep, 3,371,179 horses, and 1,324,408 hogs, showing increases over the last census of 1908 of 985,278 cattle, 851,226 horses, 613,167 hogs, and a decrease of 16,076,151 sheep. The increase in value over the 1908 census is 674,212,755 pesos for cattle, 101,667,170 pesos for horses, 8,713,160 for hogs, and 45,433,595 pesos for sheep, or a total of 830,027,170 pesos increased valuation during the 8 years since the census of 1908. — The FREIGHT TRAFFIC of the port of Buenos Aires for the first 4 months of 1916 was as follows: Imports, 24,881 carloads, or 561,620 tons; exports, 7,870 carloads, or 142,391 tons. On July 4, 1916, the Social Argentine Museum will inaugurate the new LIBRARY of 9,000 volumes, with which it was recently presented by the American Association of International Arbitration of New York. A majority of the books refer to the Argentine Republic, and were written by citizens of the United States and other countries.



INTERNATIONAL TRAIN SERVICE, including about 125 miles over which the mule coach must be used, between La Paz and Buenos Aires, has been improved and the overland journey is now

made in one week. The weekly train leaves La Paz on Fridays at 1.25 p. m.; arrives Uyuni, 7.47 a. m. Saturday; arrives Atocha, Saturday, 1.34 p. m.; stage leaves Atocha 6 a. m. Sunday; arrives La Quiaca Monday, 5 p. m.; train leaves La Quiaca 7 a. m. Tuesday; arrives Buenos Aires 7.30 a. m. Thursday. The distance between the two capitals is approximately 1,500 miles. The minister of public works of Bolivia recently made a personal inspection of the progress of work on the railway now building between Atocha and La Quiaca, and his visit served to spur the activities of contractors.——Six automobiles to be used for freight and passengers are to be placed in service between railheads on the **ORURO-COCHABAMBA LINE** to Cochabamba. Travel between the points of Buen Retiro and Vinto now being made by stage coach is entirely too slow to handle the constantly increasing business, and the introduction of motor cars it is thought will greatly relieve and improve the service.——The Bolivian Government has constructed a radio tower on the Pilcomayo at a place called Patino, and **WIRELESS MESSAGES** have been exchanged between officials of the Governments of Bolivia and Paraguay. The Paraguayan messages were sent from the tower at Asuncion, passing through the station recently erected on the Pilcomayo, and then to La Paz, thus uniting the two capitals for the first time by wireless service.——On the 10th of November next there will be inaugurated in La Paz a **NATIONAL EDUCATIONAL EXHIBITION**, for the purpose of bringing the work of Bolivian students to public attention. Two previous exhibitions of the same character have demonstrated the wisdom of thus bringing together the country's talent as shown by the exhibition. The latter will remain open one month.——Newspaper reports show that the "Comunidad Petrolifera de Santa Cruz de Bolivia," the new company which took over the **CONCESSIONS FOR OIL LANDS** in the Department of Santa Cruz, is preparing to raise a capital of about \$10,000,000 with which to enter actively into the development of the lands. The company is financed largely by Chilean capital, especially from certain nitrate companies, and the oil produced will be devoted to use in Chile and Bolivia.——As an illustration of the renewed activity in mining operations in Bolivia it is interesting to note the following facts: Two years ago there were in the whole country only two enterprises engaged in mining wolfram; today there are 200 **COMPANIES**, large and small, actively working wolfram mines. These enterprises would probably be still more active if ships were available at reasonable freight rates; at present about 7 per cent of the value of a given commodity is the rate charged on ships to Europe and the United States from Bolivian shipping points on the Pacific.——The members of the **COMMISSION FROM THE UNITED STATES** en route through South America, returning the visit of the South American delegates to the financial congress held

in Washington in 1915, were most cordially received in Bolivia by President Montes and other high officials of the Government. Public and private banquets were given in their honor and numerous addresses were made by the guests and their hosts. The minister of agriculture, Dr. Victor E. Sanjines, has addressed communications to the Prefects of Sucre and of Santa Cruz, respectively, calling attention to the possibilities of producing sugar cane on a large scale. Certain data is called for which may serve as a basis for greatly increasing the activity in the CULTIVATION OF SUGAR CANE, an agricultural crop that now commands a very high price. Bolivia will be well represented in the forthcoming child's congress to convene in Buenos Aires in August next. Delegates, and also abundant exhibits of the work, will show the country's activities in teaching the child as well as caring for his welfare.

BRAZIL

In his MESSAGE to Congress of May 3 last, Dr. Wenceslao Braz, President of the Republic, refers to the revision of the customs tariff, promulgation of the Civil Code, reform in instruction, reduced expenses in all administrative departments, satisfactory international relations, and other important matters of his administration. Credit is given to the national steamship companies for partly relieving the crisis in the shipping trade, which is still acute due to lack of shipping facilities. The Executive calls attention to the cordial reception accorded Dr. Lauro Müller, minister of foreign affairs, on his visit to the Argentine Republic, Uruguay, and Chile, and to the peace and friendship treaty negotiated between Argentina, Brazil, and Chile. Marked improvement is noted in the sanitary conditions of the Republic, especially of the capital city, where the death rate for 1915 was 22.54 per 1,000 inhabitants. The total railway receipts increased from 40,867 contos paper (conto paper = \$250) in 1914 to 41,809 contos in 1915, and expenses were reduced by substituting on many lines oil and wood as fuel, instead of coal. There were 26,062 kilometers of lines in operation on December 31, 1914, which increased to 26,282 kilometers in 1915, not including over 12,000 kilometers of lines under construction and of those for which plans have been approved. A statement of the finances of the Republic shows that in 1915 there was a deficit of 145,646 contos paper. The foreign commerce of Brazil in 1915 amounted to 1,605,630 contos paper, 1,022,634 contos being the value of the exports and 582,996 contos that of the imports, showing an increase in value over 1914 of 1.3 per cent gold. The exportation of frozen meat increased considerably, 8,514 tons being exported in 1915. There was an increase of 400

per cent in exports to Norway, 347 per cent to Sweden, 326 per cent to Denmark, 58 per cent to France, 22 per cent to the Argentine Republic, and 16 per cent to the United States. Imports increased 56 per cent from the United States, 53 per cent from Sweden, and 40 per cent from the Argentine Republic.—On May 13, in the presence of the President of the Republic and other high Government and State officials, the extensive BOTANIC GARDENS at Nietheroy, State of Rio, were opened to the public.—From July 1, 1915, to April 25, 1916, 10,112,141 bags of COFFEE of 60 kilos (132.28 pounds), valued at 394,373 contos, were exported from the State of Sao Paulo. On April 25, 1,250,000 bags were at the port of Santos ready for shipment, and it was estimated that 800,000 bags more of the present crop were at interior points of the State.—The new LYCEUM OF ARTS AND CRAFTS, inaugurated in Rio de Janeiro on May 8 with impressive ceremonies, has an attendance of 2,062 students, 1,734 being males, and 328 females.—The State of Pernambuco has effected a loan of 2,000 contos from the Bank of Brazil for completing the WATER AND SEWERAGE SYSTEMS of the city of Recife.—Sergipe, the SMALLEST STATE in Brazil, with an area of 39,000 square kilometers and a population of 450,000 inhabitants, has in its 34 municipalities 67 factories turning out manufactured products and employing 3,846 workmen. The State has 200 sugar plantations and 26 refineries. Its 380 salt mines employ 1,186 workmen. The best breeds of cattle have been imported and in 1914 there were in the State 262,000 head of cattle, 82,000 horses, 49,000 mules, besides large numbers of hogs and sheep. Special attention is now being given to the cultivation of the cacao tree, which produces four years after planting, the number in bearing at present being 160,942. The great success in agriculture is due to the use of the most modern implements and scientific methods.—On December 31, 1915, the city of Rio de Janeiro had a population of 961,822 inhabitants.—In the first quarter of 1916 the EXPORTS from Brazil amounted to 267,968 contos as compared with 260,891 contos during the same period in 1915. The imports during the first quarter of 1916 were 163,844 contos against 110,289 contos for the same period of 1915. The exports in the first quarter of 1916 exceeded the imports by 104,124 contos.



CHILE

About 10 years ago the first SACK AND BAG FACTORY was established in Chile at Llay-Llay. Recently this plant was acquired by a new company represented by Luis Fumagalli, who proposes to

go to the United States to purchase the necessary machinery with which to completely equip and modernize the factory. The company intends to supply bags and gunny sacks, for which there is a large and growing demand in Chile, at prices considerably lower than the cost of the imported articles. The Puente Alto Paper Co., of Santiago, has been conducting experiments in the manufacture of nitrate and ore sacks out of native vegetable fiber, and reports that the results obtained were highly satisfactory. The CENTRAL RAILWAY system of Chile did a freight and passenger business in 1915 amounting to 69,154,727 pesos, as compared with 61,276,321 pesos in 1913. The expenses of operation in 1915 were 63,430,148 pesos, as compared with 80,211,299 pesos in 1913. The consumption of coal in 1915 was 420,893 tons, as compared with 587,510 tons in 1913. ——— The port of Natales, situated in the Territory of Magellan, southern Chile, has one of the largest and best equipped PACKING ESTABLISHMENTS in the southern part of South America. This plant, under the name of "Frigorífico Bories," began operations on February 3, and up to March 18 last had slaughtered and prepared for export 102,918 head of sheep. The port has grown to such an extent that the Anglo South American Bank has arranged to establish a branch bank there. ——— The NITRATE shipped from the port of Mejillones in April of the present year consisted of 548,850 sacks, containing 52,611,715 kilos. The society for the encouragement of the education of Chilean STUDENTS abroad has sent Leon Chamudes to the United States to complete a course in industrial chemistry. ——— The department of public works of the Government of Chile has investigated and reported upon the seven different routes under consideration for the construction of a NEW RAILWAY from Valparaiso to Santiago and has recommended as the most desirable the survey via Maipú, Curacavi, Zapata, and Las Piedras, connecting at Quilpue and El Salto with the line now in operation. The route selected has the lightest grades and represents the shortest distance of any practical route between the two places. An AGRICULTURAL MAGAZINE entitled "Practical Agriculture" (La Agricultura Práctica) was founded in Santiago in April last in the interest of agriculture in general and for the purpose of encouraging the development of farming, stock raising, and related industries in the Republic. The INDUSTRIAL SCHOOL, to be established by the Government at Temuco is one of a chain of industrial and agricultural schools which are planned to be operated, upon the recommendation of the department of education, in different parts of the country. A practical school of agriculture has recently been opened at Aconcagua, and steps have been taken to found an agricultural school for women in that Province. The Government of Chile has established an ad honorem CONSULATE at Wellesley Hills, Mass., under the direction of David Montt García. In 1915 the

patrons of the PUBLIC LIBRARY at Santiago were furnished with 40,416 books for reading, study, and consultation. During this period 34,185 persons made use of the library during the day and 4,303 during the night, the library being open at night for eight months of the year. Of the books used 32,158 were in the Spanish language.—Reports from Combarbala, Chile, indicate that valuable deposits of high-grade MERCURIAL ORES have been discovered at a number of places in that vicinity.—Federico Santa María, a Chilean philanthropist now residing in Paris, proposes, according to press reports, to establish a UNIVERSITY in Valparaiso, his native city, modeled after and conducted along the lines of the principal universities of the United States.—Carlos Castro Ruiz, the newly appointed CONSUL GENERAL of Chile in New York, entered upon the discharge of his official duties on June 17, 1916.—The total value of the COASTWISE CARGO for the port of Punta Arenas for the year 1915 aggregated 8,677,134 pesos, as compared with 5,505,592 pesos in 1914, or an increase in 1915 of 3,171,542 pesos.



COLOMBIA

The President of the Republic by a decree of May 5, 1916, convoked the NATIONAL CONGRESS in extra session on July 20 of the present year, to consider administrative and fiscal matters requiring urgent attention.—Dr. Aurelio Rueda Acosta, ex-secretary of public works, has been appointed CONSUL GENERAL of Colombia in New York to take the place of Jorge Moya Vásquez.—According to data published by the Secretary of the Treasury, the exports of COLOMBIAN GOLD from 1905 to 1915 represent a value of \$42,081,847.—The legislature of the Department of Cundinamarca has passed a law imposing a tax of 60 centavos per kilo on TOBACCO, either in the leaf or manufactured, raised in that Department or imported therein from abroad.—For the celebration of July 20, the anniversary of the national independence, the Public Improvement Society of Medellín will inaugurate a stock, agricultural, floricultural and horticultural FAIR.—Up to May 5, 1916, TREASURY NOTES have been issued to the value of \$1,876,879 gold, \$1,296,963 of which have been redeemed, leaving \$579,916 in circulation.—Beginning with August 1, next, 25 per cent of the revenues derived from the tax on tobacco in the Department of Caldas will be used in the construction of the Manizales to Rio Magdalena RAILWAY, and 10 per cent for the municipalities.—The Government of the

Department of Caldas has commenced the construction of a departmental INSANE ASYLUM which will have men's, children's, and women's wards. — A scientific committee composed of the director of hygiene of the Department of Valle and the head physician and engineer of the sanitation committee of that port will study the hygienic condition of the coast of Malaga Bay and Palma Island, and report upon the advisability of erecting a SANITARY STATION at Buena Ventura, the latter place having an abundant supply of potable water and a desirable location at the entrance of the bay. — The legislature of the Department of Caldas has passed a law requiring the immediate construction of the works for the improvement of PORT DORADA on the Magdalena River, paying particular attention to the sanitation of the same. — According to newspaper reports concerning the NORTHEAST RAILWAY, the new line, starting from the extreme northern part of the city of Bogota, will run through the towns of Guasca, Sesquile, Gachancipa, Tocancipa, Suesca, Villapinzon, and Choconta, in the Department of Cundinamarca, passing thence into the Department of Boyaca in the direction of Tunja, Paipa, Duitama, Santa Rosa, Belen, and Soata. From the main line one of the branches will be built to Guavio, another to Guateque, another to Sogamoso, and still another, the most important of all, from Tunja in the direction of Carare, via Chiquinquira. — From January 1, 1914, to April 1, 1916, there were established in Colombia 53 new TELEPHONE offices in different parts of the Republic. Early in May last, the Government incinerated at the mint in Bogota 15,000,000 pesos of old PAPER CURRENCY. — On May 21, last, a bust in honor of Miguel de CERVANTES y Saavedra, author of *Don Quixote*, was unveiled in the Plaza de Espana (Spanish Park) in Bogota, in the presence of more than 3,000 persons, among whom were high officials of the Government and members of the diplomatic and consular corps residing in Bogota. The bust is the work of the Colombian artists Ricardo Acevedo Bernal and Polidoro Cuéllar.

COSTA RICA

At its session of May 24, the eighth anniversary of its founding, the CENTRAL AMERICAN COURT OF JUSTICE elected Dr. Bocanegra of Guatemala, President, and Dr. Gutierrez Navas of Nicaragua, Vice President, for the year beginning May 25, 1916.

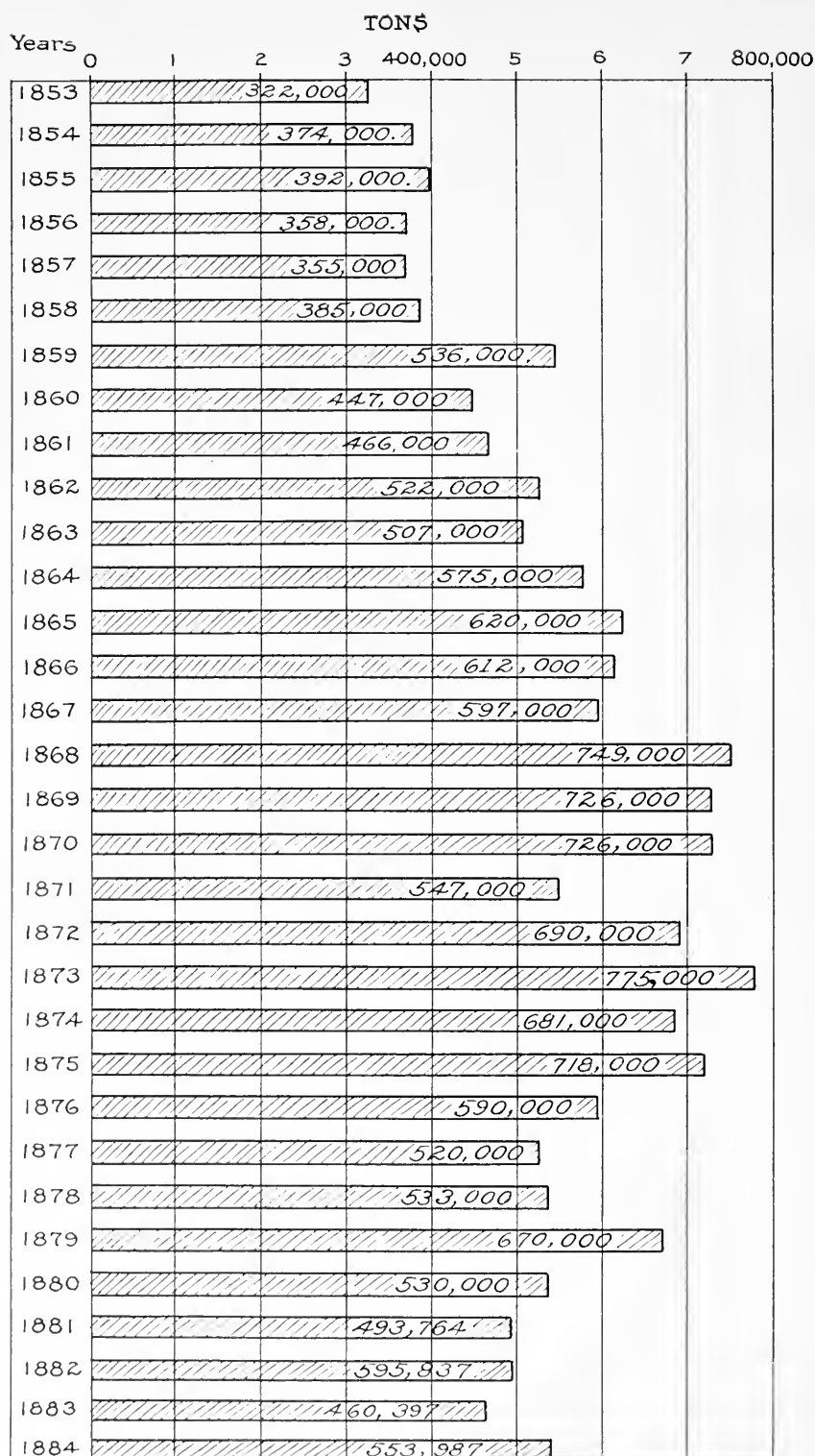
La Informacion, a daily newspaper of San Jose, states that COMMERCIAL CONDITIONS in Costa Rica are steadily improving. Limon and Cartago have developed an important industry in supply-

ing the Canal Zone with fresh fruits and vegetables, and as Costa Rica produces all the fruits and vegetables of both the Temperate and Torrid Zones, with means of transportation always at hand, she is likely to become the principal source of supply for the canal and the ships using the canal. While exports exceeded imports in value by several million dollars in 1915, both are showing favorable increases in 1916. Imports from the United States increased 3 per cent in 1915 with promise of a larger increase for 1916. Interest on the foreign debt has been promptly paid. About 10,000,000 bunches of bananas were exported in 1915 and the planting of cacao has increased considerably. New mining companies with extensive capital are making investigations that promise a great development in the mining industry. Though the revenues have been reduced owing to the war, the country is now on a much firmer footing financially than it has been for many years.—Students in the SCHOOL OF AGRICULTURE are now required to do practical field work in connection with their class-room studies, frequent excursions being made to important farms where instructors make practical demonstrations and assist students in carrying out experiments.—According to press reports, a Pittsburgh syndicate has recently sent representatives and expert engineers to Costa Rica to report on OIL AND MINING conditions, with a view to exploiting the recently discovered petroleum deposits and promoting important mining activities. Representatives of the syndicate have located permanent offices at San Jose.—On June 1, a PROFESSIONAL SCHOOL FOR GIRLS was inaugurated in San Jose, thoroughly equipped for giving practical instruction in domestic arts and sciences, together with music and such other subjects as may be deemed desirable.—Foreign capitalists have asked the Government for certain concessions with a view to locating a plant in Costa Rica for the manufacture of Portland CEMENT. During the past 10 years an average of 30,000 barrels per year have been imported and it is the object of the proposed plant to supply all the needs of the country.—Congress has passed a law accepting the plan outlined in the President's message for establishing a department in the International Bank, with a capital of 500,000 colones, for MORTGAGE LOANS on long terms and at low rates of interest to small landowners. No loan is to exceed the sum of 2,500 colones, and the value of the property mortgaged must be at least double the amount of the loan.—Preparations have already begun for celebrating in December, 1916, the centenary of the founding of the FIRST OFFICIAL SCHOOL BUILDING in Costa Rica, which was completed at Santo Tomas in December, 1816.—Congress has recently approved concessions granted to Mr. Leo J. Greulich for exploiting certain petroleum deposits, and to Mr. Herbert Houston for the cultivation of 20,000

hectares in bananas in the reserved zone called Astma Pirie. The secretary of finance has announced that he will shortly arrange for renewing the LOAN CREDIT of \$500,000 with New York bankers for normalizing the exchange.

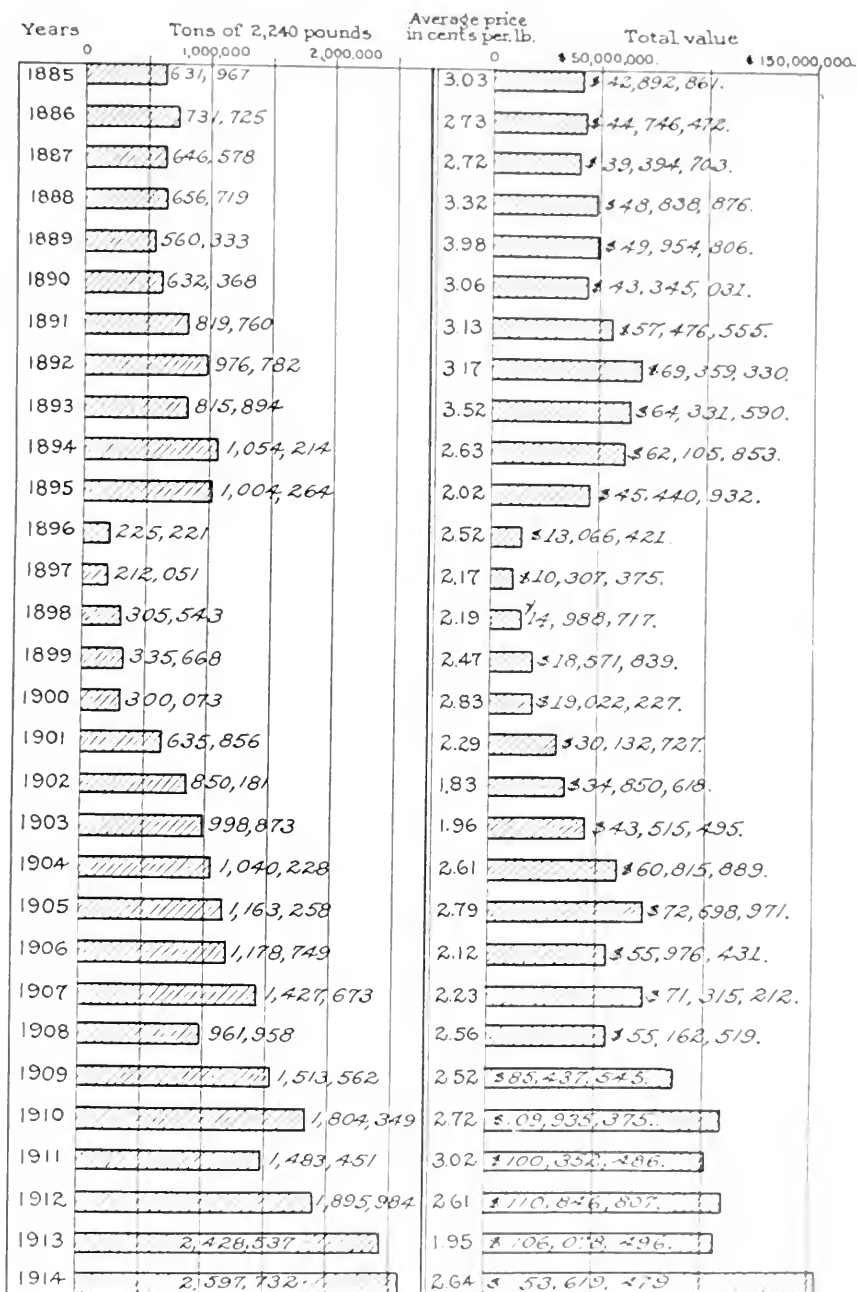


A recent executive order cancels all permits for WIRELESS INSTALLATIONS in the Republic except those operating in accordance with the Cuban neutrality proclamation of August, 1914. The decree affects wireless stations maintained by universities, observatories, corporations and private parties for educational or other purposes. This action was taken by the Government so as to enable it to observe strict neutrality in the European conflict. Luis Carmona and Braulio Martinez have petitioned the department of public works for permission to establish a new line of passenger and freight FERRYBOATS between Regla and Habana, and request authority to construct docks at such places as may be approved by the department of public works. General Freyre de Andrade, mayor of the city of Habana, has donated \$5,000 to the new TUBERCULOSIS SANITARIUM for children at Cojimar. The hospital is owned by the Cuban Government and was opened for use on June 30 last. The grounds overlook the sea and the surroundings are ideal. The NATIONAL BANK of Cuba has ordered the payment on and after July 1, 1916, of the regular semiannual dividend of 4 per cent, plus an extra dividend of 1 per cent. The secretary of public works has approved the plans of the new administration building of the HABANA UNIVERSITY. According to reports, the edifice, when completed, will be both unique and beautiful. There will be a large loggia in the center of the two laboratory buildings, with 16 Corinthian columns 30 feet high forming a court of honor. In the center will be a statue of Luz Caballero, the founder of the Cuban educational system. The Habana Central RAILWAYS have petitioned the department of public works for permission to construct electric lines from Habana to Melena del Sur, San Nicolas, Batabano and other towns. The department of sanitation has recommended to the Cuban Government the immediate repair of the STATE WHARVES in the city of Habana in such a manner as to make them as nearly rat proof as possible. The Cuban Senate has approved a law providing for the establishment of LEGATIONS in China, Panama, Santo Domingo, and Haiti, and consulates at Charleston, Honolulu, Canton, and Yokohama. The jurisdiction of the Cuban Minister to Germany is extended to Switzer-



SUGAR PRODUCTION OF CUBA FOR 32 YEARS, 1853-1884.

(From statistics by Gabriel Carol, special inspector of the Department of Agriculture, Commerce, and Labor.)



SUGAR PRODUCTION OF CUBA FOR 30 YEARS, 1885-1914, AND VALUES

(From statistics by Gabriel Carol, special inspector of the Department of Agriculture, Commerce and Labor.)

land, and the consulate at Lyons, France, is changed from an honorary to a second-class consulate.——President Menocal has promulgated the EMPLOYER'S LIABILITY LAW. Under this law indemnities varying with the seriousness of the accident are payable to the employee or to his family should death result from the injury. The law requires employers to insure their employees in some company acceptable to the latter.——In May, 1916, the Cuban Telephone Co. of Habana had 21,582 TELEPHONES in use, as compared with 18,941 during the same month of the previous year. The receipts of the telephone company in May, 1916, were \$133,283, or \$23,384 more than during the same month of 1915.——The city of Sagua la Grande, Province of Santa Clara, is to have a new SCHOOL BUILDING. The plans have been approved by the Government and \$30,000 pledged for the construction of the edifice.——The Isle of Pines Appeal reports that a HYDROGRAPHIC SURVEY is being made by the United States Government of the south coast of Cuba and the waters around the Isle of Pines, and that work has been mapped out which will require a term of about six years to complete.——The President of the Republic recently signed bills calling for the following APPROPRIATIONS: \$6,000 to the college of attorneys in Habana for a national congress, \$50,000 for a road from Santo Domingo to Sietecito, \$200,000 for a road from Santa Clara to Manicaragua, \$171,000 for the paving of Matanzas, and \$7,000 for a bridge over the Jiguani River.——The Postmaster General of Cuba has notified Cuban postmasters that on and after July 1, 1916, PARCEL-POST PACKAGES from the United States weighing more than 4 pounds will be returned to sender. Heretofore overweight packages have been delivered to addresses as a matter of courtesy, but the practice is now to be stopped and strict adherence to treaty provisions maintained.——A bill has been introduced into Congress providing for the taxing of SIGNS and advertisements not written in the Spanish language.

DOMINICAN REPUBLIC

An executive decree of April 10, 1916, approves the contract signed on April 7 of the present year between Jacinto B. Peynado, secretary of justice and public instruction, and Jaime Sanchez, to continue the compilation, printing, and distribution for account of the Government of all the LAWS, ORDERS, AND DECREES issued by the legislative and Executive powers from December 17, 1889, to the year 1915. In December, 1899, the official publication of laws, orders, and decrees was interrupted, and the continuance and

completion of this work in an orderly and systematic manner will be a great benefit to persons interested in the laws and progress of the country. Under this contract Jaime Sanchez is authorized to print at his own expense a volume containing the principal laws which he deems of interest and to place same on sale. L. Pardo,

a Danish subject, reports the discovery of DEPOSITS OF ORES containing copper, iron, and silver in the commune of San Cristobal, Province of Santo Domingo. The boundaries of these deposits are specified in detail in the Official Gazette of Santo Domingo of April 26, 1916. The same publication contains a denouncement of mining claims by Manuel Del Monte, reputed to contain silver, iron manganese, and gold ores, as well as coal, situated at different places in the Department of Santo Domingo.

A MUNICIPAL VACCINATION OFFICE has been established in the city of Santo Domingo on the lower floor of the municipal palace, now in course of construction. The office is in charge of Drs. Pedro A. de Marchena, Rodolfo y Baron Coiscou, and Mario E. Mazara. The Royal Bank of Canada, which has assets according to a late statement of \$214,000,000 and a paid-up capital and reserve fund of \$24,992,000, has established a BRANCH BANK at Santiago de los Caballeros. In addition to the general banking business of this institution, a savings department is added which accepts deposits of a value of not less than \$1.——El Diario, a daily newspaper of Santiago de los Caballeros, states that Engineer J. T. Collins, who is at present temporarily in charge of the DOMINICAN CENTRAL RAILWAY, has returned to the Dominican Government \$9,000 loaned the railway to meet the expenses of operation, the receipts now being sufficient to pay running expenses and employ about 180 men in repair work. In addition to this return payment, it is reported that another debt of the railway company of about \$7,000 has been liquidated to a banking company. These transactions show that the railway in question is well managed and is being operated on a paying basis.

The WATER company at Santiago de los Caballeros makes a charge of \$2.50 per month for the use of a hose for sprinkling and other purposes, but does not install same except where the customers have at least two water faucets in use.

On May 12, 1916, the Central Dominican Railway put into operation a new tariff for the transportation of CAMPECHEWOOD from points on its line to Puerto Plata. The rates vary from \$8.50 per thousand kilos from Moca (the most distant station) to Puerto Plata, to \$6 per thousand kilos from Bajabonico (the nearest station) to Puerto Plata.

The Government of Santo Domingo has authorized the issue of POSTAGE STAMPS consisting of 50,000,000 of the denomination of one-fourth of a centavo, and 50,000 of the denomination of one centavo.

ECUADOR

An association was recently organized in the flourishing city of Azogues under the name of the **MUTUAL AID SOCIETY** of Azogues, the principal objects of which are moral advancement and the mutual aid of its members. Sr. Augustin Garzon of that city was elected president of the society.——On May 24, 1916, the National Telephone Co. of Guayaquil opened to public service its new **TELEPHONE** office and suspended indefinitely the use of the old instruments which are to be replaced with others of the most modern type.——Press reports state that the work of installing the new **WIRELESS** telegraph station on the Island of Puna in the Province of Guayas has been commenced and will be completed in the shortest time possible.——According to data published in the *Grito del Pueblo*, a daily newspaper of Guayaquil, there are at the present time under construction in that country the following **PUBLIC WORKS**: Sanitary waterworks of the city of Guayaquil, contracted for by the J. G. White Co., London; the Curaray Railway; the Sibambe Cuenca Railway; the Guayaquil Coast Railway; the railway from Babahoyo to Balzapampa; the railway from Manta to Santa Ana, contracted by a French-Belgium company; the railway from Puerto Bolivar to Zamora; and the railway from Quito to Esmeraldas, all of which are of the greatest importance in the development and progress of the country.——The Society of the **SCHOOL OF MEDICINE** of Guayaquil, the president of which is Dr. Jose M. Extrada Coello, celebrated the twentieth anniversary of its foundation on May 5, last. Addresses were made by a number of members, setting forth the important work which the organization has accomplished from its inception up to the present time.——The bureau of **SANITATION** has appointed a commission consisting of Sófoeles Dávila and Evaristo Polo, health inspectors, to organize the sanitation works of Rocafuerte Canton, Province of Manabi. The National Government has appropriated 2,000 sucres to defray the expenses of its preliminary work.——On May 1, 1916, **LABOR DAY** was celebrated with appropriate ceremonies throughout Ecuador. In the federal capital there was an imposing parade led by the organizations of Knights of Labor, barbers, carpenters, and blacksmiths, followed by other workmen's societies and the schools of the city, who marched through the principal streets of the national capital to Rocafuerte Plaza, where, after music by the band and the singing of the national anthem, the parade disbanded. In the evening of the day referred to, a meeting was held at the headquarters of the Knights of Labor in Quito, in which all of the labor organizations of the city partici-

pated. According to the report submitted to the shareholders by the board of directors of the Association of Agriculturists, whose organization is composed of 20 members, the CACAO plantations of the association produce one-fourth of the annual cacao crop of the country, or, in round numbers, 2,080,000 pounds. The report recommends a search for new markets and that special efforts be made to export cacao in large quantities to Spain, which country, prior to 1866 was the principal consumer of Ecuadorian cacao, but which now receives most of its supply of cacao from its colonies and from Venezuela and Cuba.

GUATEMALA

The National Legislative Assembly has conferred upon the President of the Republic power to CONTRACT LOANS, pay public indebtedness, levy duties, amend the tariff, modify the budget, and do such other things as he may deem advisable for the betterment of the economic condition of the country. The Executive is required, however, to give an account to Congress at its next regular session of any action taken by the President under this authorization.——President Manuel Estrada Cabrera has promulgated a law authorizing the mintage of 2,000,000 pesos in COPPER COINS in denominations of 12½ and 25 centavos. The most important WHEAT belts of Guatemala are at Tecpam, Patzún, Comalapa, Patzún, and Santa Cruz Balanyá, where the average yield per hectare is reported to be nearly one and one-half times greater than the average yield of the United States, and over twice as great as the average yield of Russia. With the object of improving the grade and increasing the yield of wheat in Guatemala, seed has been imported from the United States, Argentina, Germany, Canada, and France, but up to the present time no foreign seed has equaled in quality and productiveness the native wheat now grown in the country under the names of "Sipac," "Cruceño" and "Blanco." The railways of Guatemala have put into effect the following rates on imports and exports of LUMBER, the quotations being given in American gold per metric ton per mile: Atlantic district, sawn lumber, in slabs, less than car load lots, 5 cents; carload lots, 3 cents. Pacific district, lumber, sawn or in slabs, 5 cents. A special price is given for exports of lumber via Puerto Barrios from points to the west of Santa María, in carload lots, of 2 cents American gold per metric ton.——A report of the ELECTRIC LIGHT CO. of Guatemala for 1915 shows that on December 31 last the company had in operation 29,861 16-candlepower lamps and 501 motors, representing

1,496 horsepower. Plans have been made for the erection of an electric light plant at San Luis Buenavista.—A report of the Treasury Department of the Government of Guatemala, covering the past year, states that the FOREIGN COMMERCE of the Republic in 1915 aggregated 16,639,062 gold pesos, made up of exports, 11,566,586, and imports, 5,072,476 pesos. In 1915 the collection of public revenues amounted to \$5,007,704 pesos, consisting of customs revenues, 63,815,126 pesos; receipts from liquors, tobacco, etc., 10,479,796; other taxes, including tax on real and personal property, 6,224,629; telegraph and telephones, 3,098,169; and postal receipts, 1,389,984.—With the object of relieving, in so far as possible, the shortage of jute sacks in the Republic, and at the same time encourage the importation of COTTON BAGS strong enough to hold from 100 to 150 pounds of coffee or sugar, the Government has reduced the import duty on cotton bagging to 2 centavos per kilo.—According to a report of the Secretary of the Department of Interior and Justice of the Government of Guatemala, the following corporations and companies were authorized to do business in the Republic in 1915, subject to an annual license tax of 1,000 pesos: W. R. Grace & Co., South Norwalk, Conn.; Tropical Trading Co., Portland, Me.; National Prussian Insurance Co., Stettin, Germany; Frankfort Insurance Co., Frankfort, Germany; and the Novella Cement Co., New York.—There were 78,000 births and 54,600 deaths in the Republic in 1915, or an excess of BIRTHS over deaths of 23,400. During the same period the marriages numbered 3,978.—The new POSTAL TARIFF of Guatemala prescribes the following charges: For local letters, 12½ centavos for each 15 grams or fraction thereof; for domestic letters and those sent to the other Republics of Central America, 25 centavos for each 15 grams or fraction thereof; and for foreign letters, 1.50 pesos for each 20 grams or fraction thereof.

HAITI

The President of the Republic has reorganized his CABINET as follows: Secretary of interior and public works, Mr. Constant Vieux; secretary of the treasury and commerce, Dr. Edmond Heraux; secretary of foreign relations, Mr. Louis Borno; secretary of justice and agriculture, Mr. Etienn Dorneval; and secretary of public instruction, Mr. Arthur Francois.—A North American company has bought the ships of the Haitian fleet which were sold by the National Government at public auction in May last. The purchasing company proposes to use these vessels in the COASTWISE SERVICE of the Republic, as soon as the repairs which are being made on them in a shipyard of the United States are completed.—

Under an executive decree of May 17, 1916, a board of STATE COUNSELORS was appointed. This board met immediately in the senate building in Port au Prince, and elected Mr. Estéphen Archer chairman and Messrs. Leo Alexis and Arthur Branaeu secretaries. The President has intrusted the board with the general revision of the constitution of the Republic and the formulation of appropriate laws, in accordance with the proposed amendments to the constitution, to be submitted to the consideration of a national constitutional assembly convoked by the executive power. According

to data published by *Le Nouvelliste*, of Port au Prince, there are now in circulation in the country 4,381,293 gourdes, PAPER CURRENCY of the old issue, which, added to the 3,000,000 gourdes of the last issue, makes a total circulation of 7,381,293 gourdes. Of the issue of paper currency called "Nord Alexis" amounting to 10,000,000 gourdes in notes of denominations of 1 and 2 gourdes, there were incinerated in Port au Prince on May 22, last, 5,411,513 gourdes.

The municipal council of Port au Prince, believing in the liberty and justice advocated and practiced by Abraham Lincoln, has changed the name of the street called Magasin de L'Etat to ABRAHAM LINCOLN. The streets of the capital of Haiti bearing colonial names have been renamed in honor of distinguished Haitians, among which the following may be mentioned: The street formerly called Fronts-Forts will now be called Thomas Madiou Street; Casernes Street, Enelus Robin Street; Bretagne Street, Oswald Durand; Tiremasse Street, Justin Lherisson; Reservoir Street, Dr. Aubry Street; Payee Street, Dantes Destouches Street; Penthievre Street, Dr. Janvier Street. The city park near the cemetery will be called Leconte Park; the road to the south of the city will be called Dr. Dehous Avenue, and the road to the west of the cemetery will be called Fleury Bathier Avenue. — *Le Moniteur*, of Port au Prince,

of May 27, 1916, publishes the complete text of the report submitted to the Secretary of the Treasury and Commerce by the Commission charged with the study of the plan to consolidate the POSTAL AND TELEGRAPH services of the Republic. An executive

decree of May 17, last, provides that CLASSICAL AND PROFESSIONAL instruction shall in future be given in the Alié Duboise School, in accordance with a ruling of the Department of Public Instruction which was published in *Le Moniteur*, of Port au Prince, of May 24, 1916. — *Le Matin*, a newspaper of Port au Prince,

announces the arrival in the national capital of G. Harris, who proposes to make a detailed study of the COMMERCIAL SITUATION in Haiti for the Department of Commerce of the United States. The report is to be published as an official document for free distribution to persons interested in the commerce of the two countries.

Emile Marcelin has been appointed CONSUL of Haiti in Mobile, Ala.

HONDURAS

La Semana Ilustrada (The Illustrated Weekly) of Tegucigalpa, commenting upon the plan of the Government of Honduras to establish an AGRICULTURAL SCHOOL at El Toncontin, expresses the opinion that if a strictly modern and well-equipped school is founded and conducted in a practical manner, that it will be of more importance and real worth to the nation than all the professional schools at present in operation in the country. The development of agriculture in the Republic, together with the building of railways and public highways leading into all of the departments, will be of incalculable service in the development of the agricultural resources of the nation, for in this way products intended for other than the local markets can be easily and quickly shipped out and disposed of where they are most needed without running the risk of having all of the profits eaten up by transportation charges.——The Republic of Honduras has over 3,658 PLANTATIONS and farms under cultivation, representing an area of 167,552 manzanas (117,286 hectares), 22,000 manzanas (15,400 hectares) of which are under irrigation. The principal products under cultivation are fiber-producing plants, bananas, coffee, sugar cane, rubber, coconuts, and cacao.——The approximate production of the Republic of Honduras in 1915 of the STAPLE ARTICLES of the country was as follows: Corn, 222,844,500 pounds; maicillo (a kind of millet), 24,655,100 pounds; beans, 14,031,200 pounds; rice, 3,252,600 pounds; coffee, 3,860,100 pounds; bananas, 6,069,379 bunches; yucca, 81,000,000 pounds; and wheat, 860,600 pounds. The bananas of Honduras come principally from the Department of Atlantida, with small quantities from the Department of Cortez and the Islands of Bahia. The coffee country is chiefly in the Department of Santa Barbara, while about one-half of the maize grown in the Republic comes from the Department of Copan. Nearly all of the wheat lands at present utilized in the country are in the Department of Ocotepeque, while the maicillo, or grass resembling millet, is cultivated in the Department of Itibuca.——The Government of Honduras has granted a SCHOLARSHIP to Conrado Bonilla, who has sailed for the United States to take up his studies in one of the colleges of that country.——The department of fomento (promotion) has leased the COCONUT PLANTATIONS of the National Government in the Department of Tela to Trinidad Raudales for an annual rental of 4,325 pesos (peso = \$0.3537).——Through its consul in New York the Government of Honduras recently paid 2,625 pesos for 100 TELEPHONES and their accessories, shipped from the port of New York to Honduras.——Enrique

Toledo Lopez has been authorized by a law of Congress, duly promulgated by the President of the Republic, to establish a GASEOUS WATER FACTORY at La Ceiba and to operate same for a period of five years. The concessionaire has the privilege of importing in one shipment all the machinery needed for the installation of the factory. — The Government has leased to Ricardo Sussumu, for a term of five years, the national COCONUT LANDS, situated at Port Sal, between Barra de Cuero to the east and the mouth of the Ulua River, at an annual rental of 1,100 pesos. The Honduran Government has SUBVENTIONED the hotel in the city of Santa Rosa, Department of Copan, conducted by Emilio Villeda R. especially for the benefit of travelers, in the sum of 100 pesos per month. — H. O. Jeffries has petitioned the Government of Honduras for permission to establish a WHARF, customhouse, and town at Zacate Grande, or at some suitable point designated by the Government. The wharf is to be located where steamers of deep draft can anchor. If the concession is granted the petitioner proposes to build a causeway 12 meters wide between the island and the mainland, to be used as a road and tramway. The petition has the approval of the President of the Republic and only requires the sanction of Congress to make it effective. — Willing Spencer, chargé d'affaires of the Government of the United States, near the Government of Honduras, gave, at the American Legation at Tegucigalpa on May 26, 1916, an artistic and highly entertaining MUSICAL CONCERT, assisted by Mrs. Philips Davis and Mr. Harry Brown. Nearly 100 guests were in attendance.



According to *El Democrata*, a daily newspaper of the city of Mexico, the Mexican Government has at present in operation 14 WIRELESS telegraph stations. The systems in use are the Telefunken and Clapp-Eastham. The following stations are now in course of construction: Four De Forest installations located, respectively, at Alamos, Acapulco, Veracruz, and Merida, one modern Telefunken at Tuxpam, and a "Wireless Specialty" at Bacoahibampo, State of Sonora. Eleven stations are planned to be erected at important points in the Republic. Large stations will be operated from Mazatlan and Guaymas, and smaller ones from Guadalajara, Manzanillo, San Blas, and a number of other places. Five large installations and several portable ones were recently ordered by the Constitutional Government in the United States. The Mexican

Government proposes to open and operate PETROLEUM deposits on national property in the Tampico, Topila, and Panuco oil zones with the object of supplying the Government railways with fuel. It is estimated that the Constitutional railways consume about 6,000 barrels of oil per day.——According to press reports the bull ring in the city of Chihuahua has been offered to the American board of FOREIGN MISSIONS as a site for the international college which is to be transferred from Guadalajara. The various Protestant denominations doing mission work in Mexico have assigned as working territory to the American Board of Foreign Missions the States of Chihuahua, Sonora, Lower California, and northern Sinaloa, the population of which aggregates, approximately, 800,000 souls.——A recent executive decree provides for the establishment in the city of Mexico of a SCHOOL OF LIBRARIANS and archivists under the direction of Prof. Agustin Loera Chavez.——The Constitutional Government has promulgated a decree making persons who obtained divorces before the DIVORCE LAW of December 29, 1914, went into effect, legally entitled to contract new matrimonial alliances.——An executive decree has been issued by the First Chief and Provisional President prohibiting on and after June 1, 1916, and until further ordered, SPECULATION IN COIN and bank notes in the Republic.——The CUSTOMS administration at Mazatlan has been raised to an office of the second class and the personnel of customs officials increased to 90.——In April last the municipality of Torreon established nine primary SCHOOLS FOR WORKMEN, two of which have night sessions. An effort is being made to enroll as large a number of illiterates in these schools as possible. One of the features of the work which has proved quite popular is a course in the study of English.——The Mexican Government has taken steps to encourage the cultivation of COTTON and maize in northern Mexico, especially in the Laguna region of Coahuila.——An executive decree has been issued requiring the values shown in CONSULAR INVOICES to be in the money of the country of origin. Consuls are authorized to charge 3 per cent of the value of same, but in no case shall the charges be less than the equivalent of 1 peso Mexican gold.——The governor of the State of Coahuila has ordered SCHOOLS established in that Commonwealth in mining, agricultural, and industrial settlements where there are more than 30 pupils of school age without educational instruction.——An executive decree provides that after July 1 of the present year MINING TAXES shall be payable in Mexican gold coin.——For the purpose of distributing in an equitable manner the RAW COTTON produced in the Republic, of which there has been an abnormally heavy yield in the Laguna region, the Government has undertaken to provide the factories of the country with a sufficient supply of this

fiber to enable them to remain in operation. The Provisional Government has extended the time for the REVALIDATION OF PATENTS issued under the Huerta régime until September 30, 1916.

NICARAGUA

The CUSTOMS RECEIPTS of the Republic of Nicaragua for the first quarter of 1916 amounted to \$220,868, as compared with \$172,433 during the same period of 1915, or an increase in 1916 of \$48,435. The receipts in 1916 by months for the quarter referred to were as follows: January, \$72,516; February, \$60,218; and March, \$88,104; while those covering the same term of 1915 amounted to \$45,065 in January, \$59,460 in February, and \$67,608 in March.

According to the Bluefields American the Eden Mining Co. is receiving a large quantity of machinery ordered from the United States, and expects all of it to be installed and the REDUCTION WORKS in operation within a few months. Mr. J. L. Phillips, the general superintendent of this company, recently made a business trip to Philadelphia and reports that active work is in progress in every department of the company's activities in Nicaragua, and that the transportation question along the coast and upper rivers, which has been inadequate heretofore, is being solved by the increased facilities made possible at this season of the year due to the greater depth of water in the rivers.—The following are among the principal SAWMILLS of the Atlantic coast of the Republic: the mill of the Cukra Co., the Port Perlas Co.'s sawmill, and the large mill at Schooner Cay belonging to the Belanguer Co., incorporated.

The Government of Nicaragua has appointed Senator J. Leopoldo Salazar to visit the Atlantic coast of the Republic, to investigate, hear complaints, and report upon the BANANA INDUSTRY of that region, with the object of bringing about a state of affairs that will be equitable and mutually satisfactory to both the growers and buyers.

A MUNICIPAL NIGHT SCHOOL at Bluefields was opened to the public in Municipal Hall in June last. The school is under the direction of Prof. John Bravo of the Cristobal Colon College, and commenced its sessions with an enrollment of about 50 students of both sexes.

According to press reports from Managua the Nicaraguan Congress has ratified the entire Atlantic Coast RAILROAD CONTRACT with the New York bankers.

A United States COLONIZATION company, represented by S. S. Wright of Cedar Rapids, Iowa, has purchased a large tract of land in the Pearl Lagoon District of the Atlantic coast, which it proposes to

sell on easy terms, in small lots, to actual settlers. This company investigated a number of properties in different parts of Central America and finally selected lands on the East Coast of Nicaragua.——According to *La Voz del Atlantico* (The Voice of the Atlantic), a weekly newspaper of Bluefields, the PEARL LAGOON RAILWAY on the Atlantic coast is being rapidly constructed. Fifteen miles of the line are at present in operation, and about 40 miles of roadbed have been completed and are ready for the laying of the ties and rails.——A Chicago firm recently inspected the SPONGE FISHERIES at Mosquito Cays about 30 miles southeast of Cape Gracias a Dios. The expert was of the opinion that the sponges were not obtainable in sufficient size and quantity to warrant their shipment, in the present state of the market, to New York.——The Concordia mine on the Atlantic coast of Nicaragua has placed an order in the United States for the machinery necessary to install a CYANIDE PLANT. Until this plant is in operation the mine proposes to continue treating its free milling ores obtained from the surface veins of the property.



PANAMA

An AGRICULTURAL SETTLEMENT of experienced American farmers, 42 in number, has been established and is operating as a stock company in Trinidad Valley on the shores of Gatun Lake, to develop a 100,000-acre tract of upland. L. S. Meyer, the business manager of the colony, reports that the colonists will till the soil with their own hands and that it is their intention to become citizens of Panama. A sawmill has been erected in a timbered section of the tract referred to and is now in operation. While the colonists at present are living in temporary houses with thatched roofs, they intend in the near future to erect more permanent dwellings and to increase the number of the colony to 100. Tentative plans have been made with the Government of Panama to occupy some of the region between Gatun Lake and Indios and Cocle rivers on the Atlantic side of the Isthmus. A gasoline launch is in use by the settlers for transportation purposes and the development of their plans.——Statistics furnished by the United Fruit Co. show that that corporation has planted in its Bocas Division of Panama 114,921 cacao trees, which produced during the past season 1,841,000 pods. Part of the Changuinola plantation, which some years ago was planted to CACAO, is just beginning to bear, and at the present time 500 acres near Chiriqui Grande are being set out in cacao plants. It is reported that a complete cacao handling installation, equipped

with a vacuum-drying process and other modern improvements, has been ordered and will soon be erected and placed in operation in the Bocas division.

The HOT SPRINGS near Calobe in the Veraguas mountains, while somewhat inaccessible and lacking at the present time in modern hotel conveniences, are very popular on account of the therapeutic value of their waters. The hot springs at Chame, province of Panama, and at Chiriqui are also famous, but are not patronized to the extent the Calobe Springs are.

Luis Martinelli, an Italian subject, who owns timber lands and operates a sawmill at San Lorenzo, province of Veraguas, recently marketed 12,000 feet of sawed MAHOGANY logs for domestic consumption. Orders for Panama mahogany logs have been received from the United States and Europe in such quantities that the sawmills of the country have been unable to fill them with the promptness desired. In addition to mahogany, the San Lorenzo district contains oak, guayacan, nispero, and cedar.

The Panama Association of Commerce has requested the Panaman Government to cancel outstanding permits to purchase in the COMMISSARIES of the Canal Zone, and to refuse in future all applications for this privilege on the ground that the present system causes unfair discrimination.——The Panama press has recently been agitating the question of the advisability, for sanitary reasons, of establishing a GARBAGE DISPOSAL plant in the national capital. The decision of the matter lies within the jurisdiction of Congress.——The SALVATION ARMY has acquired a new hall at Bocas del Toro, the funds having been raised by private subscriptions and contributions.——The imports of LIQUOR of all kinds into the Republic of Panama in 1914, according to a report of Consul General Sayder, amounted to \$73,232, of which \$40,550 represented the value of red wine, and \$28,370 the value of whisky.

PARAGUAY

Practically all the ORANGES imported into the Argentine Republic come from Paraguay. In 1913 the exports of this fruit from Paraguay to Argentina numbered 145,013,000, valued at 213,137 Argentine gold pesos (gold peso = \$0.9648). In 1914 and 1915 Argentina imported oranges, most of which came from Paraguay, to the value of 244,601 and 345,640 gold pesos, respectively. In 1915, in addition to the large fluvial transportation of Paraguay oranges to Buenos Aires and intermediate ports, about 1,000 cars were employed by the railways in transporting this fruit to Argentina. Paraguay oranges are of a quality and size which exactly meet the requirements of

the Argentine markets, and the orange lands of the Republic can be made to produce this fruit in sufficient quantity to meet the ever-growing demands of the export trade and have an ample supply for the consumption of the home market.——The department of foreign relations of Paraguay has received a laudatory report from the capital of Uruguay concerning Paraguayan STUDENTS who are studying in Montevideo, and certifying to the industry, good conduct, and progress of the same. These students were sent to the Uruguayan metropolis to study in the normal, agricultural, and other schools of the Republic.——El Diario, a daily newspaper of Asuncion, recently published an extensive report of the director of the BOTANICAL AND ZOOLOGICAL GARDEN of the Government of Paraguay, situated at Trinidad on the Paraguay River in the immediate vicinity of Asuncion. The report covers the year 1915, during which period a number of improvements were made in the buildings, grounds, and equipment of the garden. An agricultural school is maintained at this place, and students are fitted for theoretical and practical work on the farms and plantations of the Republic. The entire work is under the direction of Dr. Fiebrig. Plans for providing the garden with a port on the Paraguay River sufficient to accommodate the business of the institution have been drawn up and the advisability of putting them in effect is being considered.——The TYPOGRAPHICAL SOCIETY of Paraguay is preparing a pamphlet giving a history of printing in the country from the date of the installation of the first printing press, enumerating as far as possible the books and pamphlets published in Paraguay up to the present time, and giving a list of the establishments which have been engaged in the printing industry of the nation up to 1916.——Press reports from Asuncion indicate a strengthening of confidence in the commercial transactions of the Federal capital and a general betterment of business conditions throughout the Republic. At Asuncion many new buildings are in course of erection, the streets are being paved, and the suburbs extended. Business is reported good in every branch of industry, and the future for agriculture and stock raising in the Republic was never more promising.——A bill has been introduced into Congress providing for the erection of a PENITENTIARY and jail for women which, according to newspaper reports, will probably receive the approval of Congress.——Press reports state that the President of the Republic proposes to soon issue a decree regulating the operation of WIRELESS telegraph stations in the Republic in time of war.——Advices from Asuncion have been received to the effect that the Lloyd Brasileiro Steamship Co. have arranged to place in service a STEAMER to ply between Asuncion and Corumba.——A shipment of 1,300 yearling CALVES was recently made from Trinidad Landing to the Argentine Republic.——Tests of domestic CEMENT made in Asuncion were most

satisfactory, and show that a good quality of Portland cement can be made in the Republic and placed on the market at a lower rate than the imported article.

On the 14th of last May the Republic of Paraguay celebrated the one hundred and fifth ANNIVERSARY of its independence.

Leaders of the radical party have held a number of meetings in Asuncion with the object of establishing a new DAILY NEWSPAPER in the Federal capital.



An executive decree of June 5, 1916, provides for the organization of a COMMISSION consisting of the secretary of the treasury, chairman, the president of the Board of Trade of Lima, the director of customs and taxes, the manager of the tax collection office, the manager of the Salt Co. of Peru, the president of the Federation of Universal Artisans, the president of the Assembly of United Societies, the president of the General Federation of Workmen, and the chief treasury inspector, who will act as secretary of the commission. The object of the commission is to propose means and measures tending to stimulate the importation and national production of ARTICLES OF PRIME NECESSITY and to recommend appropriate measures for securing a supply of foodstuffs, and the sale of same to the consuming public at reasonable prices. -- By virtue of a recent executive decree EXPORTS OF BULLION "cementos," mattes, and in general all products containing silver, will only be permitted when they are covered by a certificate of origin issued by the engineer of the metallurgical establishment and approved by the chief of the mining company, mentioning the name of the mine from which the ores were taken as well as the place where they were smelted or treated. The Government reserves the right to issue such decrees and orders as it may deem necessary to prove the correctness of the declarations. -- The Pimental to Pomalca RAILWAY has been authorized by the Government, under certain conditions to establish a provisional passenger and freight traffic over the constructed section of the line. The maximum velocity of trains is 30 kilometers per hour between Pimental and Chiclayo, and 20 kilometers between Chiclayo and Pomalca. -- The executive power has approved an agreement made on May 22, 1916, between the secretary of the treasury and the following banks: Peru and London, Italian, International of Peru, Popular, German Trans-Atlantic and the Lima Savings Bank. The agreement contains three clauses which obligate the Government to exchange BANK NOTES (circular checks) at par for gold coin for payments made on account of the loan of £500,000. The said banks agree to increase their gold guaranty for the issue of bank

notes (circular checks) in the proportion to the amount exchanged. The Bank of Peru and London has increased its guaranty of bank notes (circular checks) to £198,433.——The company operating the guano deposits of Peru has declared a dividend of 25 centavos per share for the second half of 1915.——A presidential decree of May 24, 1916, convokes the NATIONAL CONGRESS in regular session on July 28, 1916.——The National Government has begun an active propaganda for the encouragement of the cultivation of WHEAT in different parts of the Republic, and proposes to expend for this purpose up to 3,000 Peruvian pounds.——The Government of Venezuela has conferred upon President Pardo the DECORATION of the "Busto del Libertador" (Bust of the Liberator) of the first class and upon Enrique de la Riva Agüero the same decoration of the second class.——The executive power has ordered MUNICIPAL ELECTIONS throughout the Republic to be held in December next in accordance with the law. The officials to be elected will occupy their respective posts on January 1, 1917.——On May 16 last there was unveiled in the city of Cuzco with imposing ceremonies a MONUMENT in honor of Commander Ladislao Espinar, a native of Cuzco, who was killed in the war of 1879. The authorities, the local educational institutions, colleges, and schools took part in the exercises, which consisted of a procession and speech making, and the National Government declared that day a holiday in Cuzco.——A decree of the President of the Republic provides for the establishment of SCHOOL RIFLE CLUBS in public and private schools of secondary instruction.——The press of Lima announces that the Government has received official notice from the board of directors of the Danish STEAMSHIP Co. of the establishment of a direct line of vessels between Copenhagen and Callao, via, alternately, the Strait of Magellan and the Panama Canal.——The provincial power of Cuzco has taken charge of the erection of a MONUMENT in Regocijo Plaza of that city in honor of the celebrated Peruvian historian Garcilaso de la Vega, a native of the Inca capital. The corner stone of the monument is to be laid during the approaching annual festivities in honor of national independence.



SALVADOR



The commission of the Government of Salvador appointed to take part in fixing the PERMANENT BOUNDARY LINE between the Republics of Salvador and Honduras, is composed of Dr. Rafael Antonio Crellana, and engineers Francisco Espinal and Pedro Fonseca. The mission of Honduras, appointed for the same purpose, is made up of Dr. Rómulo Durón, and engineers Medardo Zuñiga and Luis

Paz. These commissions will soon meet in the town of Amamoras, Republic of Salvador, to begin the work for which they have been selected.

A decree of the National Legislative Assembly permits FREE ENTRY into the Republic of shipments of Peruvian bark in pieces or powder, sulphuric acid and quinine (quinina en bruto). In view of the fact that the cutting down of the FORESTS of the country, regardless of the prohibition of the land and municipal laws, has tended to dry up or diminish the flow of water from the springs and streams that supply many of the towns and plantations of the Republic with this necessary fluid, thereby causing inconvenience to communities and injury to agriculture, the President has requested the governors of the respective departments in cooperation with the mayors of the towns, the forest guards and the local landowners, to engage, from the 3d to the 15th of May of each year, in a systematic replanting of the denuded areas, giving special attention to places where there are now or formerly existed springs or depressions which give rise to streams and water courses.——The construction of a NATIONAL HIGHWAY between the cities of Santa Ana and Nueva Concepcion, which road crosses the Lempa River, was commenced during the latter part of May of the present year.

The Mercedes R. de Meléndez COLLEGE FOR GIRLS at Chalchuapa was officially opened for service, under the auspices of the municipal authorities of that town, on May 14, 1916.

Gustavo A. Ruiz, consul general of Salvador in Buenos Aires, represented his country at the CENTENARY CELEBRATION of the proclamation of Argentine independence on the 9th of the present month.

La Prensa, a daily newspaper of the city of San Salvador, announces the discovery of a GOLD MINE reputed to contain abundance of rich ore, near the town of El Carmen, district of La Union. The same publication also states that valuable PETROLEUM deposits have been encountered in the department of Morazan.

According to press reports a plantation owner in the department of San Miguel is setting out 1,000,000 HENEQUEN plants with the object of engaging in that industry on a large scale.

About the middle of last May construction work was begun on the ZACATECOLUCA STATION of the International Railway.

The President has decreed a strict observance of the law requiring EXPORT TAXES to be collected on the weight of the products exported specified in kilos, and requiring customs administrators to refuse to pass shipments covered by documents which fail to comply with this provision of the law. The reports of customs administrators to the General Bureau of Statistics of the Government of Salvador for the sake of uniformity must show weights in kilos.

The National Legislative Assembly has modified the law governing the manufacture and sale of ARMS, EXPLOSIVES, etc., in the Republic so as to require an annual payment of 100 pesos for each man

office or factory, and 50 pesos for each branch office or factory if located in the same department, but if situated in different departments then each branch office or factory is required to pay the full quota of 100 pesos annually. If, however, branch offices or factories are maintained in the same city in which the principal office or factory is located, they are required to pay an annual tax of 25 pesos each.

URUGUAY

The general BUDGET of receipts and expenditures of the Government of Uruguay for the fiscal year 1916-1917 estimates the receipts at 29,086,428 pesos, and the expenditures at 29,406,445, leaving an estimated deficit of 320,017 pesos. The expenditures are made up of the following items: Legislative power, 706,812 pesos; presidency, 69,244; interior, 3,277,982; foreign affairs, 511,735; finance, 2,104,248; public instruction, 3,276,972; industries, 848,393; public works, 1,376,500; war and marine, 5,185,549; judicial power, 383,712; public debt, 8,506,349; sundry credits, 797,672; and pensions, etc., 2,361,277. The principal items of estimated revenue are as follows: Customs duties, 12,500,000 pesos; property tax, 4,160,000; license tax, 1,600,000; tax on alcohol, matches, beer, tobacco, sugar, wines, spirits, medicines, live stock, and inheritances, 3,890,000; and stamp and other taxes, 7,376,428.——The Government has introduced into Congress a bill modifying the present system of SECONDARY AND PREPARATORY EDUCATION. The curriculum is divided into two periods or grades; that is to say, a general course of four years and a complementary one of two years. The first period gives preference to the study of natural science, modern languages, agronomy, and bookkeeping, while the second period pays attention to particular subjects not included in the first period.——The amended IMPORT CONSULAR REGULATIONS of the Government of Uruguay require freight lists to specify the class and name of the vessel, name of the captain, flag under which the vessel sails, registered tonnage, total tonnage of cargo for each port of the Republic, name of port of origin and of port of destination in the Republic, number of bill of lading, marks, numeration and number of bales, class and contents, gross weight or measurement as the case may be, names of shippers and consignees, and the declared value of the goods in Uruguayan currency, in accordance with the respective bills of lading or certificates of origin.——The annual STOCK FAIR under the auspices of the Rural Association of Uruguay will be opened at the Prado in Montevideo on August 25, 1916. Steps have been taken to make this fair one of the best of its kind ever held in the national capital. Im-

provements of a permanent nature are planned at the fair grounds, inasmuch as the Rural Association proposes to hold at some time in the near future an international stock fair in Montevideo.

The President of the Republic has delivered a message to Congress recommending an appropriation of 18,000 pesos for the purpose of supplying the town of Lacaze with POTABLE WATER.

An administration bill has been introduced into Congress authorizing the establishment of a NATIONAL SCHOOL OF PAINTING AND SCULPTURE.

The school proposes to impart theoretical and practical instruction free in drawing, painting, engraving, sculpture, and architecture, and intends to maintain popular courses for the encouragement of artistic culture. It is reported that after the school is in operation the subvention now given by the Government to private art schools will be discontinued.

A contract has been made by the Government of Uruguay with Angel Zanelli, an Italian sculptor, for the erection of a monument in Montevideo in honor of the Uruguayan patriot, JOSE G. ARTIGAS. The monument will be in accord with the drawings submitted by the sculptor in a competitive contest, and is to be completed within three years.

The NATIONAL LIBRARY in Montevideo celebrated on May 25 last the hundredth anniversary of its existence.

La Campaña, a daily evening paper published in the city of Artigas, advocates the growing of TOBACCO in that department, which possesses a soil said to be capable of producing high-grade and finely-flavored tobacco leaves.——The net receipts of the MONTEVIDEO WATERWORKS in 1915 were P120,493.

VENEZUELA

On May 29, 1916, Dr. Felipe Rincón González, a priest of the parish of San Cristobal, was elected by the National Congress ARCHBISHOP OF CARACAS AND VENEZUELA. The selection has been approved by the people of Venezuela with manifestations of great joy.

—The board of directors of the Fluvial & Coastwise Navigation Co. of Venezuela called a special meeting of the stockholders of that company in May last for the purpose of securing approval for an ISSUE OF BONDS to the value of 800,000 bolivar (1 bolivar = \$0.193) for the purchase of three steamships to be used in the service of the company.

In accordance with the provisions of the rules and regulations of the National Academy of Medicine of Caracas, that institution of learning has opened its doors to candidates who desire to participate in the annual competition test for the VARGAS PRIZE for 1915, consisting of a gold medal and 1,000 bolivares in cash, to be awarded for the best essay on one of the following topics: Kalazar, beriberi, carates, askutidze, etc.

prevails among the Negroes in the Tropics).——On April 30 last, work was commenced by the organizing committee of the Second Venezuelan MEDICAL CONGRESS which will be held in Caracas some time during the present year, the exact date to be determined later.——The Venezuelan press states that a foreign company has taken preliminary steps toward exploiting the CARBONATE OF MAGNESIA DEPOSITS found in the municipality of Lares.——At the beginning of May, 1916, the work of repairing the LEVEE to the east of Ciudad Bolívar, thrown up to keep out the waters of the Orinoco River, was finished. This will in future prevent the eastern part of the city from being flooded.——Reports state that Valencia & Mediano, of Porlamar, Margarita Island, have ordered a modern COTTON GIN from New York to be used in the ginning and baling of the cotton crop of that island. These gentlemen also propose to engage in the cultivation of cotton on a large scale on lands purchased by them in the neighborhood of San Antonio, and will drill for artesian water with which to irrigate their cotton plantations.——The Secretary of Public Instruction of Peru has notified the Government of Venezuela that Guillermo Machado Morales and Rafael Figueredo Herrera, Venezuelan students who have scholarships in the School of Mines at Lima, will soon have conferred upon them the degree of MINING ENGINEER.——In March last a shipment of 857,500 kilos of COPPER ORE, valued at 88,625 bolívares, the property of the South American Copper Syndicate, was shipped to New York in the Dutch steamer *Luna*.——An executive order, issued in accordance with the terms of the contract made by J. P. Cuéllar, with the Executive Power, authorizes, solely, Mr. Cuéllar, or his representatives or assigns, to export through the customhouses of the Republic CHICLE extracted from the pendare tree.——During the first two weeks of May of the present year Gen. Juan Vicente Gómez, President elect of Venezuela, officially opened to public traffic TWO IMPORTANT HIGHWAYS, one of which, 50 kilometers long, runs from Caracas to Guatire, and the other, 59 kilometers long, from Maracay to Ocumare on the coast. During the same period Gen. Gómez also opened to public use the Tacarigua SUGAR CENTRAL situated on the banks of Lake Valencia, and the new Maracay electric-light plant, which furnishes light and power to that city and the industrial establishments of the surrounding country.——According to the report of the department of public works, great activity is being shown in repairing the following CART ROADS: The Tachira Central from Caracas to La Guaira; from Caracas to Charallave; from Villa de Cura to San Juan de los Morros and Calabozo; from Caracas to Valencia; from Puerto Cabello to San Felipe; from Cumana to Cumanacoa; from Cumarebo to Vela; and from La Guaira to Macuto.



ARGENTINA • BOLIVIA • BRAZIL • CHILE • COLOMBIA • COSTA RICA • CUBA • DOMINICAN REPUBLIC • ECUADOR • GUATEMALA • HAITI •
AUGUST 1916

BULLETIN OF THE PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁNES, ASSISTANT DIRECTOR.



VIEW OF CORRIENTES, ARGENTINA

PANAMA • NICARAGUA • MEXICO • HONDURAS

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¹Absent.





SEÑOR DR. HIPOLITO YRIGOYEN

President elect of the Argentine Republic, who will be inaugurated on October 12, 1916.

Dr. Yrigoyen was born in the city of Buenos Aires in the late sixties and for over 20 years has been a prominent figure in public life. He is of a studious nature and has held a chair in the University of Buenos Aires for many years.



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No. 2

STATUE OF BOLIVAR FOR CENTRAL PARK, NEW YORK CITY.

THE minister of Venezuela, Dr. Santos A. Dominici, is authority for the announcement that the Venezuelan Government has selected the model for the statue of the great liberator, Simon Bolivar, to be erected in Central Park, New York City, in place of a statue erected there many years ago but later removed because of certain defects in sculpture. This award has been made after a careful competition in which several prominent sculptors engaged. Engravings from photographs of the model approved by the Venezuelan authorities are published herewith, and show that it will be a notable equestrian figure of the best modeling and ranking with other high class statues of New York City. Sally James Farnham, who has won this competition, is regarded as one of the leading sculptors of the country. Among her big public works, which have been highly praised by the critics, are fountains in Baltimore, the Soldiers' Monument of Ogdensburg, N. Y., one in Bloomfield, N. J., two large monuments in Rochester, N. Y., and the bronze frieze in the Governing Board room of the Pan American Building. Aside from these she has done notable portraits of ex-President Roosevelt and a number of smaller figures which have been exhibited at different exhibitions. Mrs. Farnham has made a special study of Latin-American history and has shown in her modeling of the Bolivar statue a sympathy with the spirit of Bolivar's environment and an appreciation of his character and personality. The bronze frieze in the Pan American Building is regarded as one of the most notable of its kind that has been done in the United States and has attracted the commendation of the best critics of the United States, Europe, and Latin America. A bronze replica of the original plaster model of the statue of Bolivar will be placed in the Pan American Building. Hon. Cabot Ward, park commissioner of New York City, who is also vice president of the Pan American Society of the United States, has shown much interest in the replacing of the statue of



SEÑOR DON GUSTAVO MUÑOZAGA-VARELA,

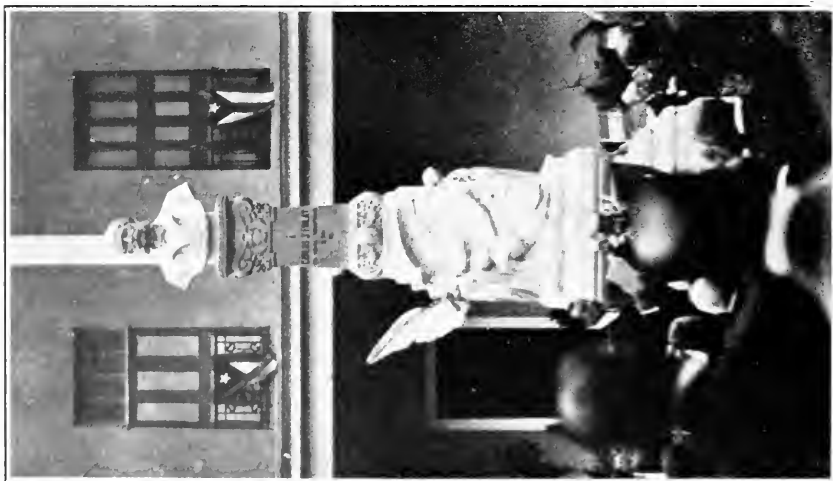
Counselor of Embassy and Chargé d'Affaires of Chile at Washington, D. C.

SEÑOR MUÑOZAGA-VARELA has had considerable consular and diplomatic experience prior to coming to this post. He commenced his official career as chief of the diplomatic section in the Department of Foreign Affairs at Santiago. Subsequently he served as consul general at Buenos Aires, Antwerp, and Callao, in which latter place he performed the duties of a diplomatic officer for six years. The charge d'affaires is a lawyer of considerable prominence.

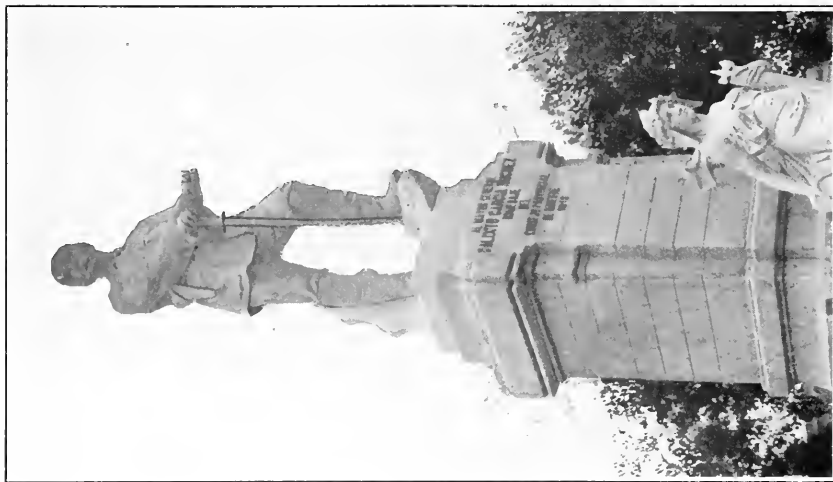


MODEL OF BOLIVAR - LIMA PERU

In competition with several leading sculptors, the American artist, Paul H. Lathrop, was selected by the people of Lima to design the monument. The monument is one of the many great works of art in the city of Lima.



Courtesy of "Grafico."



TWO NOTABLE CUBAN MONUMENTS.

Left: Monument to Dr. Carlos Finlay, recently unveiled in the patio of the Department of Sanitation building in Habana. The monument is surmounted by a marble bust of the great physician who was the first to discover and to prove the mosquito transmission of the yellow-fever germ, thereby becoming one of the world's greatest benefactors. Right: Statue of General Calixto García Iniguez, the Cuban hero, recently unveiled in the Plaza de Holguin, in the city of his birth, Holguin, Cuba.

Bolívar in Central Park and intends that its unveiling shall be made a great international Pan American event. Special credit is due the minister of Venezuela, Dr. Domínguez, and the Venezuelan authorities for the efforts they have put forth in arranging that a statue of the George Washington of northern South America shall ornament the principal park of the leading city of the United States.

NEW CONNECTIONS OF MR. PEZET, FORMER MINISTER OF PERU

It will be of interest to all persons who have followed the Pan American work of Mr. Federico Alfonso Pezet, former minister of Peru in Washington, to know that he has been elected one of the vice presidents of the new International Commercial Corporation, recently formed and having its headquarters at 505 Fifth Avenue, New York City. In the statement issued by this new corporation, its capital is given as \$5,000,000, of which one-half was already issued and fully paid at the time that the announcement was made, July 14, 1916.

The following is a quotation from the announcement, which gives further details:

Señor Pezet, exminister of Peru to this country, has for a great many years been one of the leading exponents in developing closer business and more friendly commercial and political relations between the countries of South America and the United States.

His talks throughout the country have convinced a great many bankers, business men, and manufacturers that there is a wide field for the United States in foreign trade—not only in South American countries, but in Russia, Spain, the Orient, Australia, and Africa.

A group of financiers headed by Mr. Joseph Osler, president of the Fifth Avenue Bond & Mortgage Co., have organized into the International Commercial Corporation and have enlisted support from large business and banking interests throughout Europe, the Orient, Australasia, and the South American countries.

The new corporation will take over the export business of the Fifth Avenue Bond & Mortgage Co., which has been developed to a very large volume since the outbreak of the European war. And it will have the benefit of the industrial connections which have already been made in this country with many leading manufacturing countries whose trade expansion it has undertaken along broad lines.

Mr. Pezet, as one of the vice presidents of the corporation, will be in charge of the development of foreign enterprises. Mr. William Murray Stanton, LL.D., former vice president, will be in charge of general merchandise. Other vice presidents will be elected shortly, and several of them executive officers are presently en route to foreign ports. Mr. Joseph Osler, president of the Fifth Avenue Bond & M. Co., will be chairman of the board of directors and president of the new corporation. Experts in special lines will fill other posts, and the corporation will open country town offices as soon as the new premises are made ready.

The volume of the export trade of the United States with foreign countries grows with each day, and it is the belief of the organizers of the International Commercial Corporation that they have made such arrangements as will insure the expansion of the new trade which the world conditions of the last few years have created.



THE DARTMOUTH ALL-ROUND ACHIEVEMENT PRIZE.

This silver vase, donated several years ago by the Director General of the Pan American Union, is awarded to the member of the senior graduating class of Dartmouth College who, in the opinion of the student body, best represents the highest ideals of all-round achievement. The winner's name is engraved on the vase, which remains as a permanent possession of the college.



Photo by Whit.

CHESTER A. PUDRITH DARTMOUTH '16 WINNER OF THE CARROLL C. COLEMAN
ACHIEVEMENT PRIZE.

ALL-ROUND ACHIEVEMENT MEDAL.

Each year the Director General of the Pan American Union offers personally an all-round achievement prize to Dartmouth College, Hanover, N. H. This is awarded to the member of the senior graduating class who, in the opinion of the student body, expressed by ballot, best represents the highest ideals of all-round achievement as he graduates from college and goes out into the world. In making the selection they take into consideration character, scholarship, athletic skill, personal popularity, and general qualifications that go to make up a perfectly equipped all-round man. The selec-



ALL-ROUND ACHIEVEMENT MEDAL.

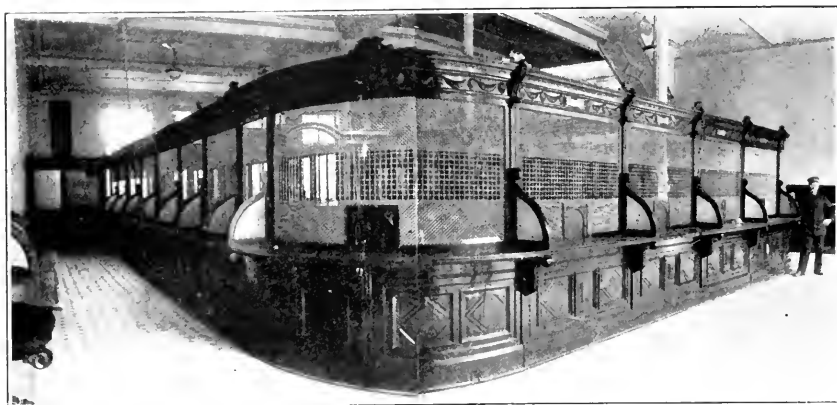
The man chosen as winner receives a medal, which he may retain as a permanent token of his achievement and the regard in which he is held by his fellow students. The obverse of the medal bears the name "Dartmouth College," and on the reverse is the name of the winner, with the words "For all-round achievement."

tion of the winner arouses the interest of the entire college and the prize serves as an incentive to develop the ambition of the young men attending the institution. The prize is now so generally recognized as a reward of real merit that each man who has won it during the last three years has at once been offered a high position of responsibility by some representative person or firm in professional or business life. The successful competitor is given a commemorative medal, and his name is engraved upon a large silver vase, which remains in the permanent possession of the college and on constant exhibition. Inasmuch as this prize has now become a matter of



PERMANENT HOME OF THE SPANISH LOAN FUND, WASHINGTON

Top picture - Exterior view, showing main facade and side entrance. Middle picture - Fairway approached from main entrance, right - upper story, view of main hall. Bottom - The main reception hall.



INTERIOR AND EXTERIOR VIEW OF THE SÃO PAULO, BRAZIL, BRANCH OF THE NATIONAL CITY BANK OF NEW YORK.

The São Paulo branch of the National City Bank of New York opened its doors for business last August. In two weeks after the opening the bank's deposits are said to have amounted to \$300,000, while its loans and discounts were about \$150,000. The success of the bank was thus assured from the start, and its organization has been a prominent factor in the promotion of trade between Brazil and the United States.

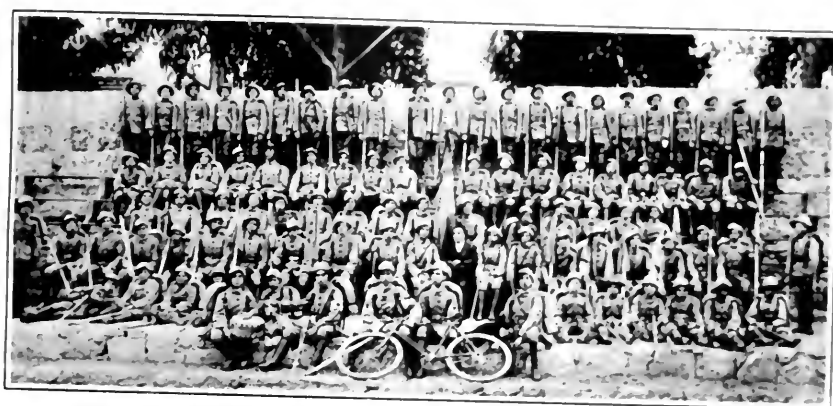


Photo by Cardozo. Courtesy of Sr. Bernardino Lopez

BOY SCOUTS OF BOLIVIA

The boy scout movement has met with the enthusiastic approval of Congress of the Republic and since the organization of the first company of 80 scouts in La Paz in 1911, smaller cities. In the above illustration various companies have been organized and boy scouts in La Paz. The picture showing that they are well informed and equipped with the United States.

widespread interest and its award has attracted attention in Latin America, as well as in the United States, pictures are published herewith of the winner, the cup, and the medal. This year the man chosen to receive this honor is Chester A. Pudrith, of Detroit, Mich.

DEMISE OF L. B. PORTER, TRAVELER AND JOURNALIST.

The Director General takes this opportunity to express his sorrow at the death of that well-known traveler, author, and journalist, Linn Boyd Porter, of Brookline, Mass. Mr. Porter had an interesting career. He spent his early years doing various kinds of work and then he purchased the Cambridge (Mass.) Chronicle, which he edited for 13 years, making it a financial success and a power in local affairs. He was later attached to the Boston Herald. Under the pseudonym of Albert Ross, Mr. Porter published over a score of novels, which proved popular with the reading public and netted him substantial profits in the way of royalties. He was also widely known as a "globe trotter." He visited nearly every State in the United States and made many journeys to all quarters of the world. His sea voyages alone exceeded 100,000 miles. The Director General knew Mr. Porter in Europe, in Asia, and in America, and was always impressed with his optimism, his broad point of view, and his thorough appreciation for the countries of Latin America.

INTEREST OF WOMEN IN PAN AMERICANISM.

From time to time the BULLETIN has pointed out in its columns the increasing activity that the women of the United States are showing in the development of closer Pan American relations through their clubs, societies, reading course, and lecture programs. The interesting sessions of the Women's Auxiliary of the Second Pan American Scientific Conference, held in Washington last winter, proved another important factor in bringing the women of these countries into more personal and intimate contact with each other. To further encourage the efforts of the ladies to know better their sisters in the southern Republics a study outline was prepared and distributed among the delegates at the Biennial Convention of the General Federation of Women's Clubs recently held in New York. The outline was prepared by Alice Ames Winter, chairman of literature and library extension department, and consists of a series of references to standard books designed to assist in the study of the races, conditions, and problems of the countries of Latin America in their relation to the United States.

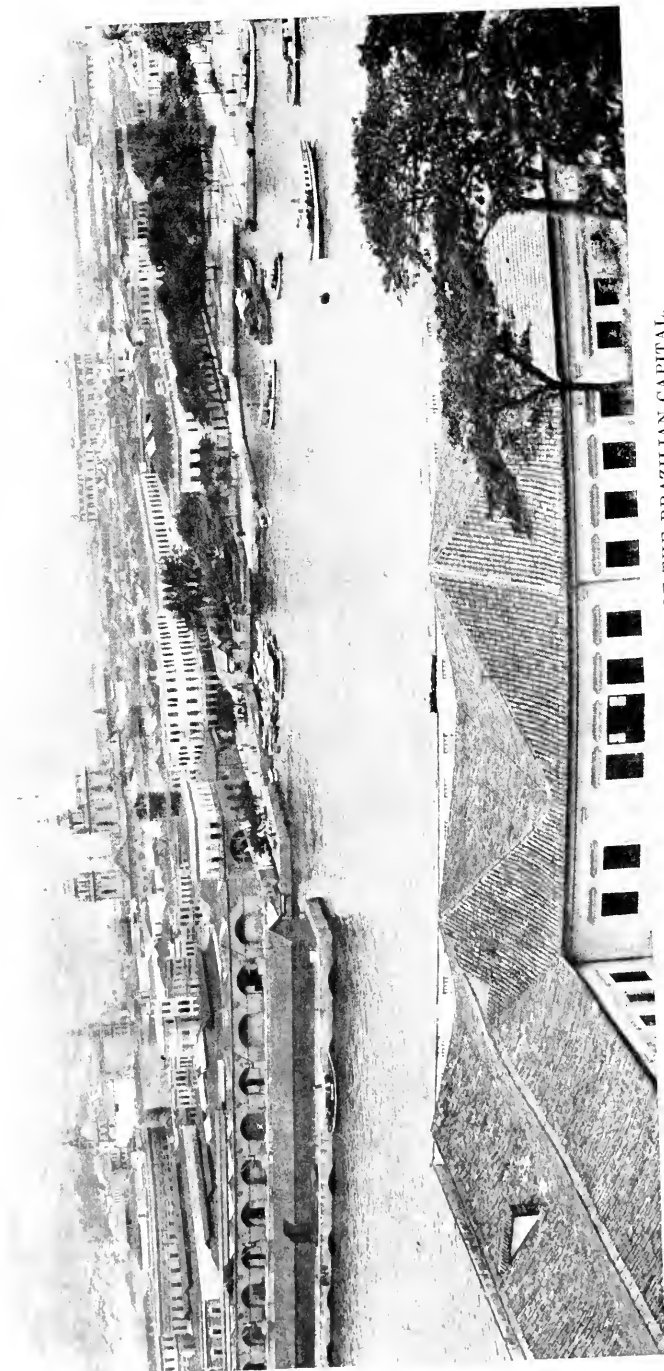
SOUTH AMERICA AND THE TOURIST--EAST COAST¹

TRAVELING for pleasure is a field of activity that has grown to enormous proportions during recent years, and one that ramifies into practically every quarter of the globe. Disturbed conditions of many nations have seriously affected the vast army of pleasure travelers, whom we term tourists. They have been deflected from their accustomed courses, and it is well that there are other sections of the earth that possess marvelous attractions, quite the equal in many respects of those of the Old World.

A famous writer has said that the four greatest marvels of the universe are the mountain, the sea, the volcano, the desert. All of these and many more wonderful sights are now at the bidding of those who would cultivate an acquaintance with the South American continent and its peoples. The latter are now welcoming the tourist from foreign shores and are gradually improving the things that minister to his comforts and convenience.

Instead of climbing Switzerland's rugged peaks, the enterprising tourist is now invited to ascend the higher Andes to examine the homes left by the Incas and, perchance, contrast them with the low, rock-hewn caves of Elephanta; the traveler who has gazed in silent admiration upon Japan's sacred and symmetrical Fujiyama will be doubly pleased to see its counterpart in Ecuador's smoking Cotopaxi; sailing up South American rivers to forests where man has never trod may be just as appealing as a voyage along the Nile to view the decaying works of the hordes of past ages; in lieu of a stroll on the chariot-worn streets of Pompeii, we may meander amid the ruins of Bolivia's Tiahuanacu, a city that flourished possibly 3,000 years ago; indeed, the whole continent of South America calls for more tourists to view its wonders—wonders that have not been exaggerated as compared with similar ones of other lands. South America is vast, her natural wonders, unlike those of Europe, are usually widely separated, and the traveler must not expect to flit birdlike from one place to another as in Europe and the United States. Neither must he expect to find the same degree of comfort and luxury that is characteristic of the more thickly populated regions of the earth. Europe has about 333 people per square mile; the United States 31 people for each square mile; while some of the South American

¹ By William A. Ridd, of Pan American Lines, Ltd.



ONE OF THE MANY PICTURESQUE VIEWS OF THE BRAZILIAN CAPITAL.

This photograph, recently taken, gives another view of Rio de Janeiro. In the foreground may be seen a section of the new docks, where the tourist is likely to land; in the distance is discerned the peak of Corcovado, which every tourist should ascend by means of the cog railway.

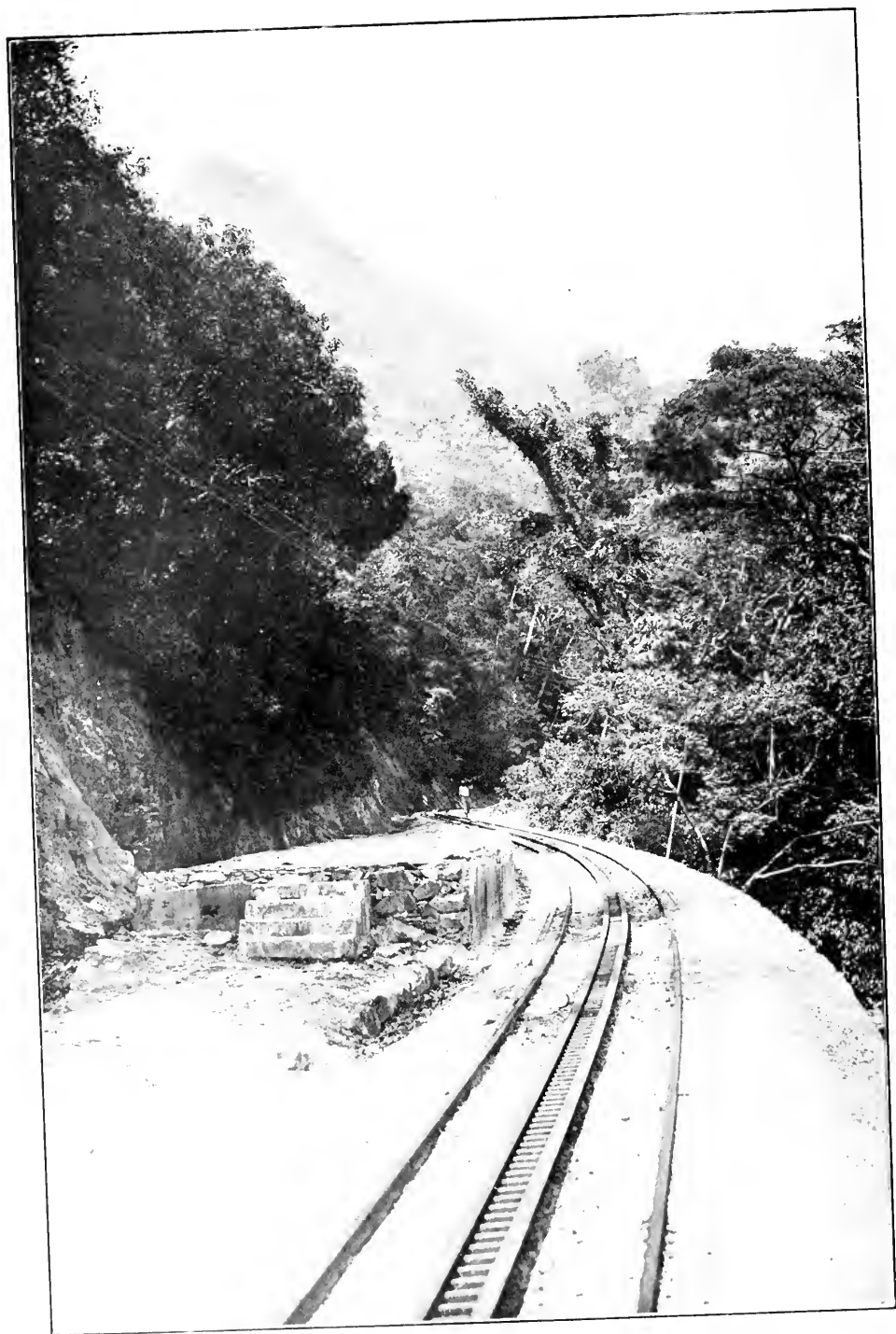
countries have barely 3 people spread over similar areas. The tourist should not be surprised, therefore, should he alight some day at a small railway station or river port and find no uniformed attendant to assist him. Travel aids and comforts can not be maintained in places where the tourist is rarely seen, so what we might term "tourist pioneering" fitly applies to certain parts of South America to-day. In cities and up-to-date sections tourist facilities are greatly superior to those I found, say, 5 or 10 years ago. In the larger cities the reasonable traveler will have comparatively few causes for complaint; and in some cases he will find even better services at cheaper rates than in parts of the United States or Europe. For instance, the public carriage service in Buenos Aires, a fact made possible by the inroad of the automobile over the use of the older vehicle.

Strictly speaking, the word "tourist" is one who makes a tour or performs a journey in a circuit. This circular course is especially suitable for the traveler who endeavors to see at least the larger cities of South America on one trip. Passenger steamers are available for sailing southward on one ocean and voyaging northward on another, while the choice of a transcontinental railway journey or a picturesque voyage through the Strait of Magellan form a section of the lengthy tour.

Many prospective tourists are confronted with the question of which direction is best to take on starting from the United States. There are various things that enter into either itinerary, and no ironclad rule can be laid down. That which suits one person may be disliked by another. But after traveling a number of times southward by the Atlantic and returning via the Pacific, and vice versa, the writer believes the stranger may possibly get more real pleasure or benefit by sailing first for the eastern countries of the continent. The voyage of two weeks or more between New York and the coast of Brazil seems doubly tedious when the traveler is tired, which is the case if he is returning from the circular tour. If he starts out fresh from New York, the ocean for some days at least is a novelty, and the time quickly passes. Furthermore, the ship's food is fresher on the outward voyage, as the Atlantic steamers usually take on supplies in New York in sufficient quantities to last during the round trip to Buenos Aires, with the possible exception of fruits and a few other articles.

Traveling through the canal and on the Pacific is done by stages and frequent stops are made, which break the tedious sea voyage. From New York to Buenos Aires there are about four or five regular ports of call; from the former to Valparaiso there are at least 12 or 15 ports visited, each furnishing a glimpse of more or less interest.

Comparing the Atlantic-European voyage with that to South America, it may be said that the latter is usually the smoother. It is best



A CLOSE VIEW OF THE RAILWAY UP THE HEIGHTS OF CORCOVADO.

The peak may be seen in the distance; it rises at least 2,800 feet above the city of Rio de Janeiro, and from the observatory on its summit one of the world's most wonderful views is obtained. At about halfway up the electric car stops at a restaurant and passengers may purchase refreshments.

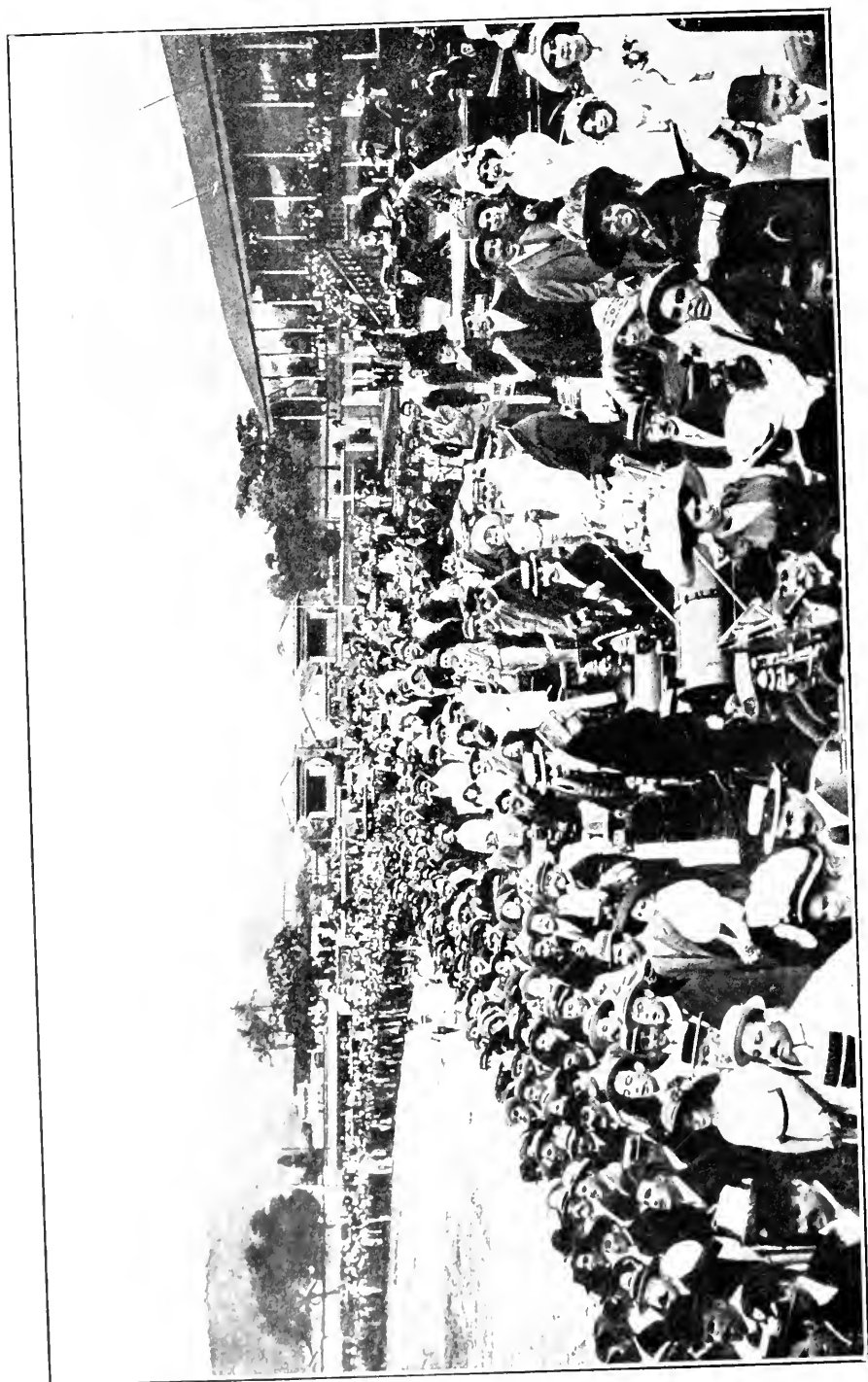
to avoid the Caribbean Sea in July, August, and September, as this is the season when hurricanes frequently develop.

Seasons in North and South America are reversed, as is well known. When the United States is clothed with the snows of winter, the countries of Argentina and Chile are experiencing their summer days, and vice versa. If one is to visit Brazil only, it might be well to plan to be in the capital city and vicinity about the season of our summer months, when the mornings and evenings are usually pleasant, although the sun of midday is hot.

What is the cost of a South American tour? That, of course, depends upon the length of the tour and the way one travels. Leading tourist companies which provide de luxe tours, including a liberal amount of sight-seeing by automobiles, patronize the finest hotels, and send a conductor with parties to relieve their members of the petty annoyances of travel, charge from \$4,200 up for a tour lasting three months or longer. A round-trip ticket from New York to Buenos Aires, across the Andes to Valparaiso, and home via the Panama Canal is quoted by steamship companies at about \$575; such tickets include stop-over privileges at all important cities and towns. The writer on one of his trips lasting many months averaged \$11 per day; this was not a pleasure tour, and its course lay through interior regions where living conditions are primitive and the necessary expenses more moderate than in the city. One American traveler I met had spent two years in touring South America. His average daily expenses for everything amounted to \$5.50; he patronized second-class hotels in larger cities and the best hosteleries in small towns, and often resorted to second-class railroad tickets. In other words, he denied himself many comforts, a course the tourist would be unwise to follow.

Where two persons travel together, such as husband and wife, they may live comfortably and do considerable sight-seeing on, say, \$10 each per day; a couple occupying one room at hotels, a double-berth compartment on trains, and eating together where meals are served *a la carte*, as in Buenos Aires, and other large cities, the proportional expenses may be considerably reduced. When no entertaining is done and automobile rides are reduced to two or three trips about each city, and free use made of street cars, the expenses of a couple may be brought to a still lower figure. It is unwise, however, to practice such rigid economy, and a more liberal allowance of from \$12 to \$15 per day per person will provide many pleasures and additional sights, and at the end of the journey the tourist will hardly regret the increased cost. Hotel rates for room and meals in the larger cities may be figured at from \$4 to \$5 daily per person when traveling in pairs.

I have met foreign ladies in various parts of South America traveling in pairs without male escorts; this custom is uncommon in the



A SCENE AT A RACE COURSE IN RIO DE JANEIRO.

The people of Brazil, as of all other Latin countries, are passionately fond of amusements, and the race course is very popular. If the tourist happens to visit the Brazilian capital during the winter months, June, July, and August, opportunities for witnessing a horse or automobile race will be frequent.



AN ANT HILL IN BRAZIL.

If one travels by the day train between Rio de Janeiro and Sao Paulo he may see hundreds of hills like the one above pictured. They are often taller than a man and are inhabited by multitudes of ants.



FALLS OF ITAPURA, TIETE RIVER, SAO PAULO, BRAZIL

One of the numerous cataracts obstructing the course of the Tiete River, which flows about 100 miles from the western slope of the Serra do Mar to the Alto Parana River. The rapids of the Tiete furnish the electric light and power for the city of Sao Paulo. In a distance of 100 yards the fall is a fall of 33 feet.

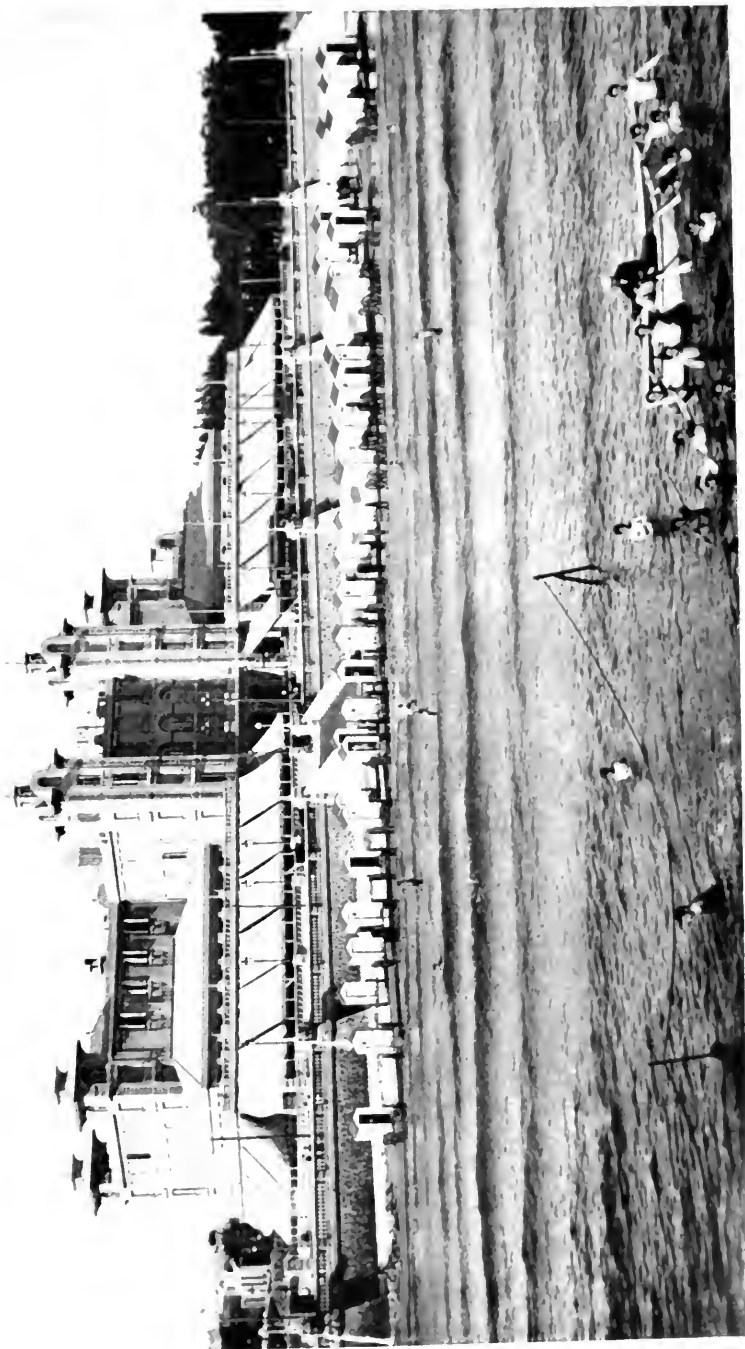
Latin countries, but the ladies referred to were pleased with their experiences and reported no serious troubles.

"How shall I take funds to South America?" Letters of credit issued by the leading American banks, those issued by several tourist companies, express letters of credit, and express orders for small amounts of from \$10 to \$50 are the most convenient forms in which to carry money. To-day American gold finds a ready exchange in South America and at good rates; a few years ago English gold was preferable because it was better known and everywhere acceptable. Five branches of a United States bank (National City, New York) are now established in Rio de Janeiro, Santos, Montevideo, Buenos Aires, Santiago (soon to open), and they offer additional financial conveniences for the tourist. Many of the South American banks and the branches of those of Europe also honor letters of credit of foreign banking houses.

Before starting on a tour it is wise to procure a small amount of currency of the country to which one is bound. At the leading tourist offices in New York and elsewhere one may buy money of almost any land at reasonable rates. If going first to Brazil it will be very convenient to have on hand a few milreis, the money of that country, to spend for incidentals before one has a chance to visit the Brazilian banks. The same course may be followed from country to country, trading the currency of the land one is leaving for that of the next Republic to be visited.

"What kind of clothing shall I take with me to South America?" is a question constantly asked by the prospective tourist. The seasoned traveler, believing in preparedness for climatic changes regardless of whither his course leads, sails forth well fortified for varying temperatures. The South American tourist should do likewise. Aboard ship, whether the itinerary is laid via Panama or down the Brazilian coast, light summer clothing will be required at all seasons and for many of the days spent aboard ship. As the vessel nears Valparaiso in the Pacific or Montevideo in the Atlantic the temperature gradually changes and light wraps or overcoats are usually found quite comfortable, especially when one is on the steamer's deck. Raincoats require small packing space and are often useful.

On shore in most tropical ports the weather is warm or hot, depending of course upon the time of day as well as the season of the year. Broadly speaking and with reference to ports a few hundreds of miles north or south of the Equator, the nights are fairly pleasant. As one ascends the Andes from Argentina to Chile, for instance, or travels inland to Bolivia the temperature lowers as the altitude increases and light wraps make one more comfortable, especially at night. Cool



A SECTION OF THE BATHING BEACH AT RAMIREZ, MONTEVIDEO.

Probably the most popular of the United States in winter and probably the most likely that he would find the popular enjoying summer sea bathing at Ramirez and other resorts near Montevideo.

nights and hot days are typical of the river climates, such as is experienced on the voyage up the Paraguay to Asuncion.

All things being considered, it seems proper to say that the tourist should carry both light and heavy clothing, the supply of each depending on the length of the tour and the sections to be visited. One steamer trunk, a suitcase, and possibly an English traveling bag with padlock (for soiled clothes) holds a sufficient wardrobe for the average tourist. Dress suits are convenient to have handy, but the whole tour may be as profitable and as interesting without them. However, most travelers to South America carry such clothing.

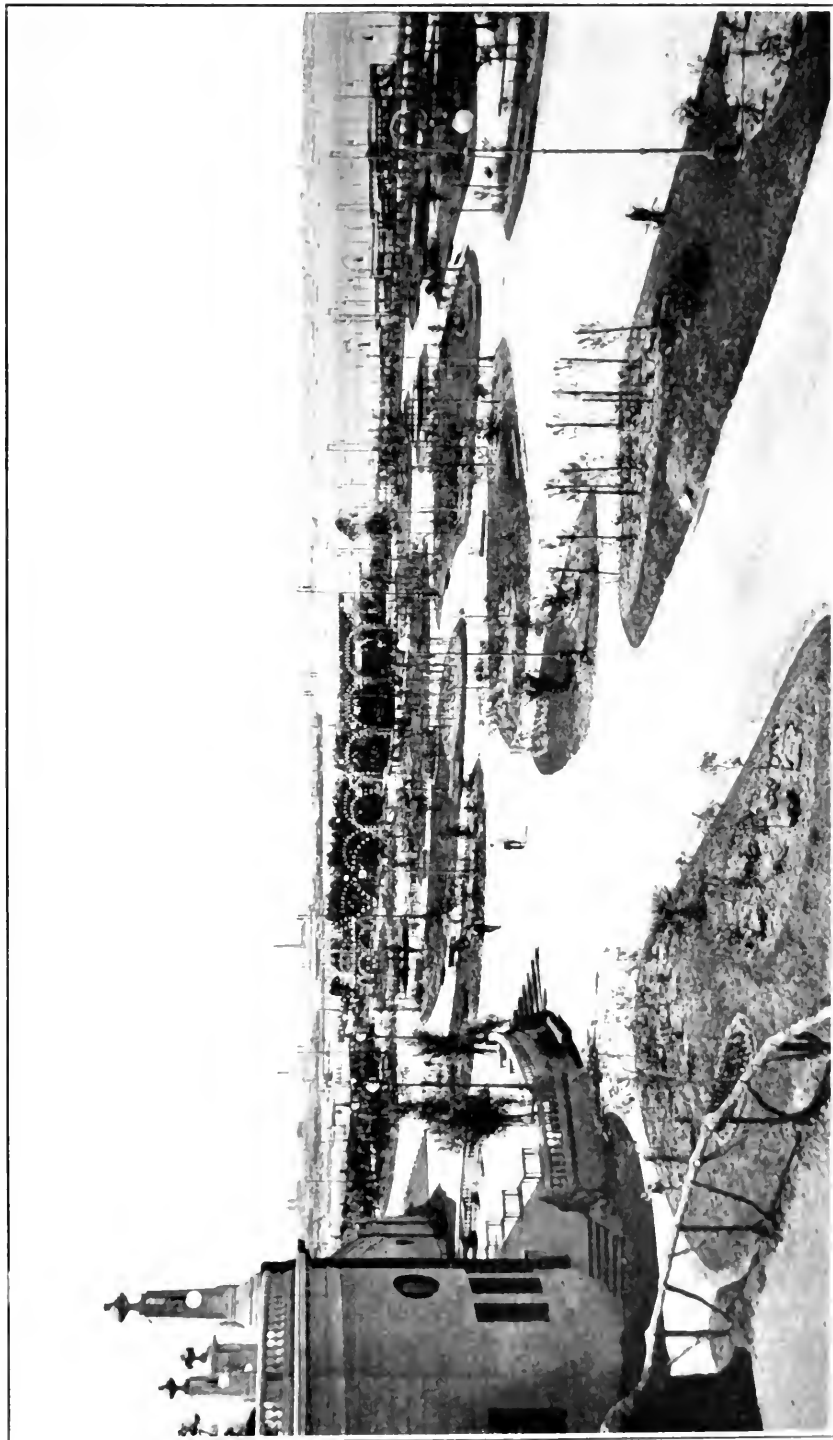
It is advisable to own a passport when visiting any foreign country. It is also well to be vaccinated and inoculated for smallpox and typhoid fever; both operations are more easily accomplished before leaving home, and in case of encountering disease one is fortified in advance. South American customs officials are usually courteous if the traveler submits to a free examination of his baggage. It is well not to have firearms unless one is going to interior regions; they often cause delay in passing the customs. English-speaking interpreters are attached to most customs offices, the leading hotels and other public places, or may be procured on short notice.

After leaving Bridgetown, Barbados, sometimes a port of call, the average southbound passenger ship does not enter any of the Brazilian ports, with the possible exception of Pernambuco, until Bahia is reached. The latter is about 4,000 miles from New York, has a population of 250,000, is the third city of Brazil in commercial importance, and like the Canadian city of Quebec, possesses lower and upper sections, which are connected by several modern elevators and by winding streets. The lower town is the shipping district and is almost deserted at night for the amusement places, hotels, and cafés of the upper city.

Upon arrival at Bahia the ship anchors far out in the bay and the visitor has a fine view of the city before going ashore; for the latter purpose small boats manned by natives are used, and the fare per person is usually from 1 to 2 milreis, depending upon whether the time is day or night and condition of weather.

If the tourist has a few hours on land an automobile or an electric car may be taken for Rio Vermelho, an attractive suburb undergoing many improvements. The delicious fruits are a feature of strangers' visit to Bahia; oranges may be purchased for the equivalent of 1 or 2 cents American money. Several hotels, one a new structure, offer opportunities for trying Brazilian food; from hotel verandas one may watch the afternoon or evening crowds and thereby obtain a fair idea of local activities.

If one is visiting a Latin country for the first time, Bahia will prove a revelation, as the many bright-colored residences, interspersed



CAPT RRO, ONE OF THE SUMMER RESORTS NEAR MONTEVIDEO.

From Montevideo, Uruguay, at 10:00 a.m. on the 10th of May, 1900, the tourist in a look over an active harbor while listening to the music of the band and at the same time view the numerous diversions of the Uruguayans.

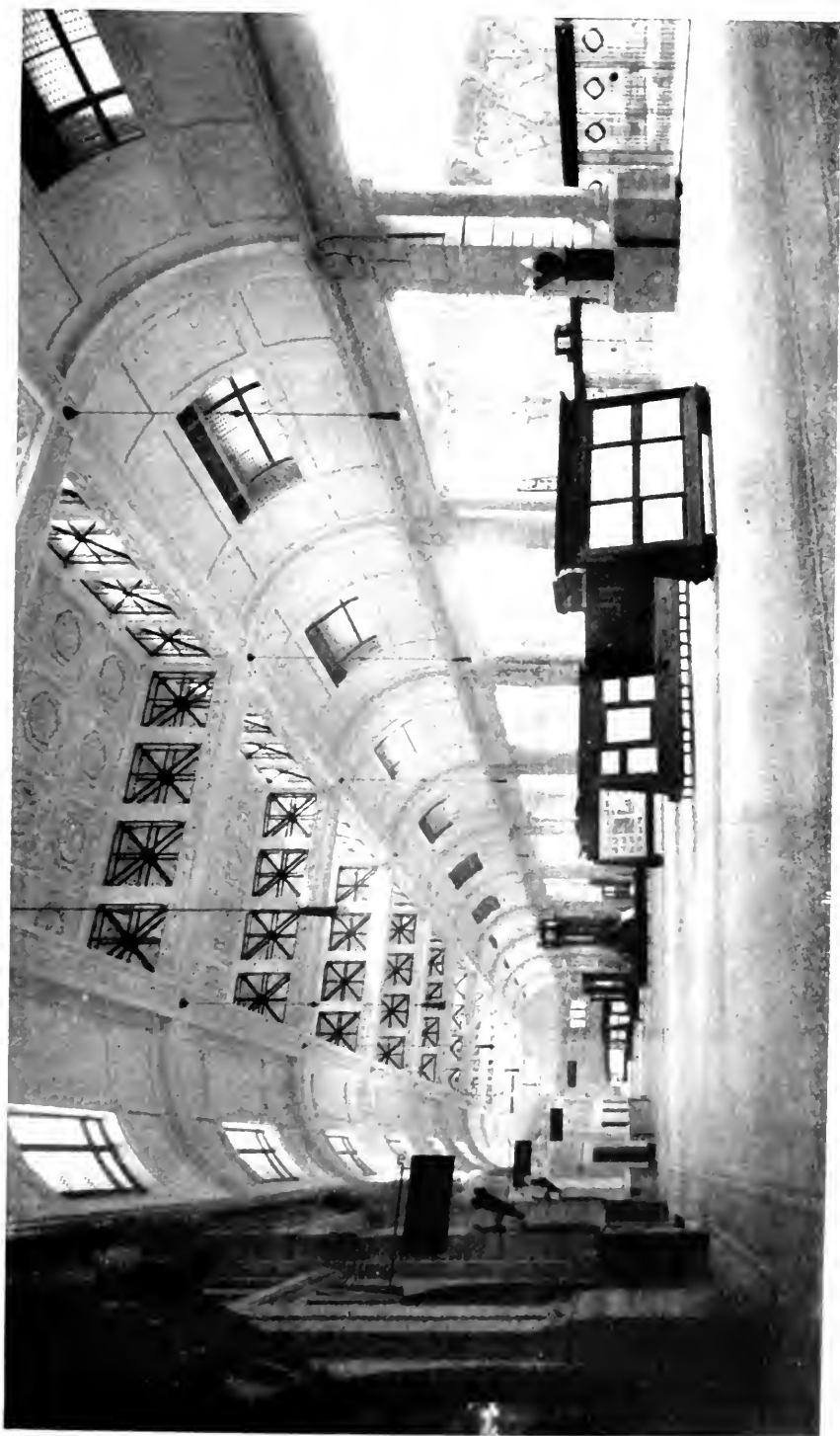
among beautiful tropical foliage, is especially pleasing to the novice. The tourist should wander on foot through the shops of the lower city, as such a trip reveals native characteristics and shows a bit of the business life of the people; the evening view over the harbor and its shipping is also interesting.

About three days are required for the average vessel to make the run from Bahia to Rio de Janeiro, a distance of 745 miles. The Brazilian shore is in view most of the time. Some ship masters aim to round Point Cabo Frio about the break of day, and shortly thereafter the vessel enters the Bay of Rio de Janeiro. This is one of the most beautiful harbor scenes that nature presents in any part of the world. Descriptions by the most gifted writers are inadequate, and neither painter nor photographer can depict the marvelous beauties with which nature has endowed the Brazilian capital. It must be seen and studied under varying conditions—at daybreak, at dusk, from Corcovado, from Tijuca, and from other points mentioned in the guide books. Oakenful's Brazil, printed in English and Portuguese, and other books are to be found in the leading bookstores of the city.

Rio de Janeiro has more than a million population. Its streets and avenues are interwoven among little mountains and hills, and architects have taken advantage of nature's plans and constructed many picturesque villas on the sides of overhanging cliffs. The city lies within a Federal district, about eight times larger than the District of Columbia. Great civic improvements mark recent years, sanitation has been brought to a high state of efficiency, and the traveler who observes ordinary precautions has little to fear from diseases.

Hotels are numerous and fairly reasonable in their charges. Four to five dollars per day are usual rates. The Extrangeiros, the Central, the Avenida, the International, are among the best. The latter is situated on the mountain side half an hour by electric car from the heart of the city. A very fine hotel building was recently completed and may be opened at an early date.

If the tourist has only a few days in Rio de Janeiro he should, of course, see the most important sights first. By climbing Corcovado by the electric cog road a wonderful view of the many sections of the city is obtained; also an excellent view is to be seen from the top of Sugar Loaf Peak, reached by hanging trolley. The Tijuca motor-car trip, made in a few hours, covers a wide range of subjects and scenery. The Botanical Garden, the National Museum, the Monroe Palace, the celebrated shopping street called Ouvidor (new name Moreira Cesar) are easily reached by the electric cars from the principal hotels. The seaside resort of Copacabana, especially if the time be summer (November-February), will reveal a phase of the Brazilian at play. If time permits, a rail trip to Petropolis, made in half a day, will be found interesting. This little city is high up in the



CENTRAL HALL OF THE NEW CENTRAL ARGENTINE STATION AT BUENOS AIRES.

SEVEN CENTRAL ARGENTINE STATION, central hall which gives access to the platforms and to the adjacent waiting, dining, and refreshment rooms. This fine hall measures 180 feet in length, 82 feet in width, and 63 feet in height.

This fine

Organ Mountains and is the summer residence of many well-to-do Brazilians and foreigners. Formerly the foreign diplomats lived there, but improvements in the capital city have caused many to reside permanently in Rio de Janeiro.

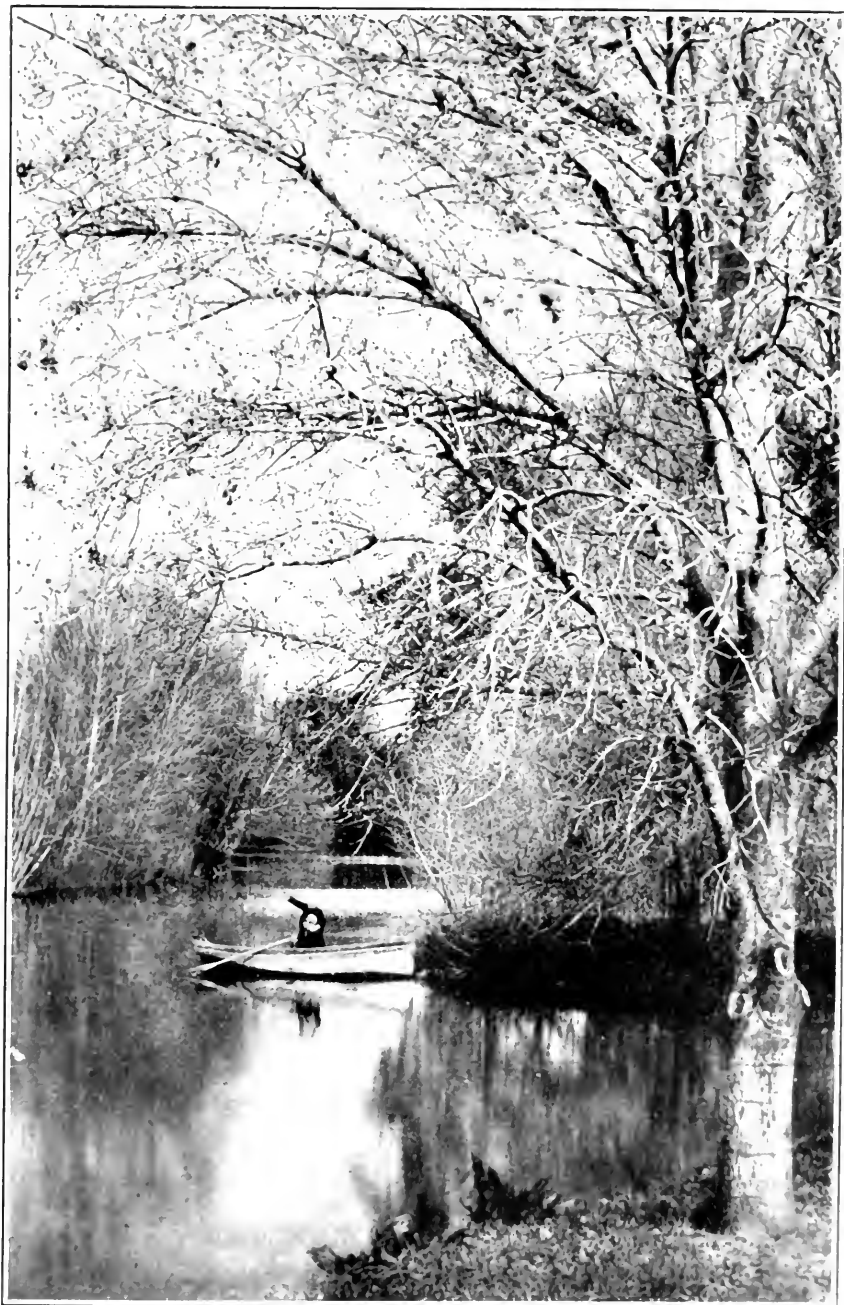
After the tourist has viewed the sights of the Brazilian capital, if southward bound, a train trip to São Paulo, 300 miles southwestward, will land one at the Chicago of Brazil. There is usually a day train and a night train, the latter carrying sleepers; the former is best for those who are interested in catching views of slightly interior sections of Brazil and some of the business enterprises along the route.

São Paulo is a very active business city, with nearly 500,000 population; it is the capital of the State of the same name, the latter comprising millions of acres of the Brazilian coffee region. There are splendid public buildings, new and modern hotels, and good automobile and carriage services are offered the visitor at reasonable rates. About 3,500 miles of railways radiate from this city into interior regions, and if the tourist has time an interesting excursion may be made to some of the great coffee plantations. Mackenzie College, an American institution which has done such splendid work in educational fields, is located in São Paulo, and is well worth seeing. A visit to the new Municipal Theater and a drive through the rapidly modernizing residential section of the city is recommended; Paulista Museum contains many interesting Brazilian products.

From São Paulo to Santos a railway, 50 miles long, affording magnificent tropical views, transports the traveler to the world's greatest coffee port. Ships now go alongside the docks recently completed. Many passenger vessels north or south bound call at Santos, so the tourist may travel by rail from Rio de Janeiro via São Paulo and meet his ship at Santos. Visits should be made to the great coffee warehouses, and a trolley trip to Guarujá will take the visitor past some of the important enterprises of the city. Santos has a population of about 50,000.

There is railway connection between the capitals of Brazil and Uruguay; but it is not advisable, on account of irregular trains and primitive conditions, for the tourist to attempt to make this journey by land, as at present it requires about a week, or double the steamer's schedule time.

The capital of Uruguay lies on the direct route of the tourist to South American countries, and practically all of the steamship companies operating in that part of the world have their vessels call at Montevideo. The latter is one of the cleanest cities found on the Continent; it has a population of 400,000, is distant from New York about 5,760 miles, and its harbor is considered one of the best in South America, the bay being 6 miles wide. The hotels of Montevideo are numerous, and some of them quite modern, with steam heat,



SCENE ON AN ARGENTINE RANCH.

We are inclined to think of Argentina as a vast stretch of plain without artificial improvement. The scene here portrayed is a scene on San Juan Teodoro Perot's Estancia. From Buenos Aires the boatmen, with little loss of time one or more ranches, quickly reached by train.

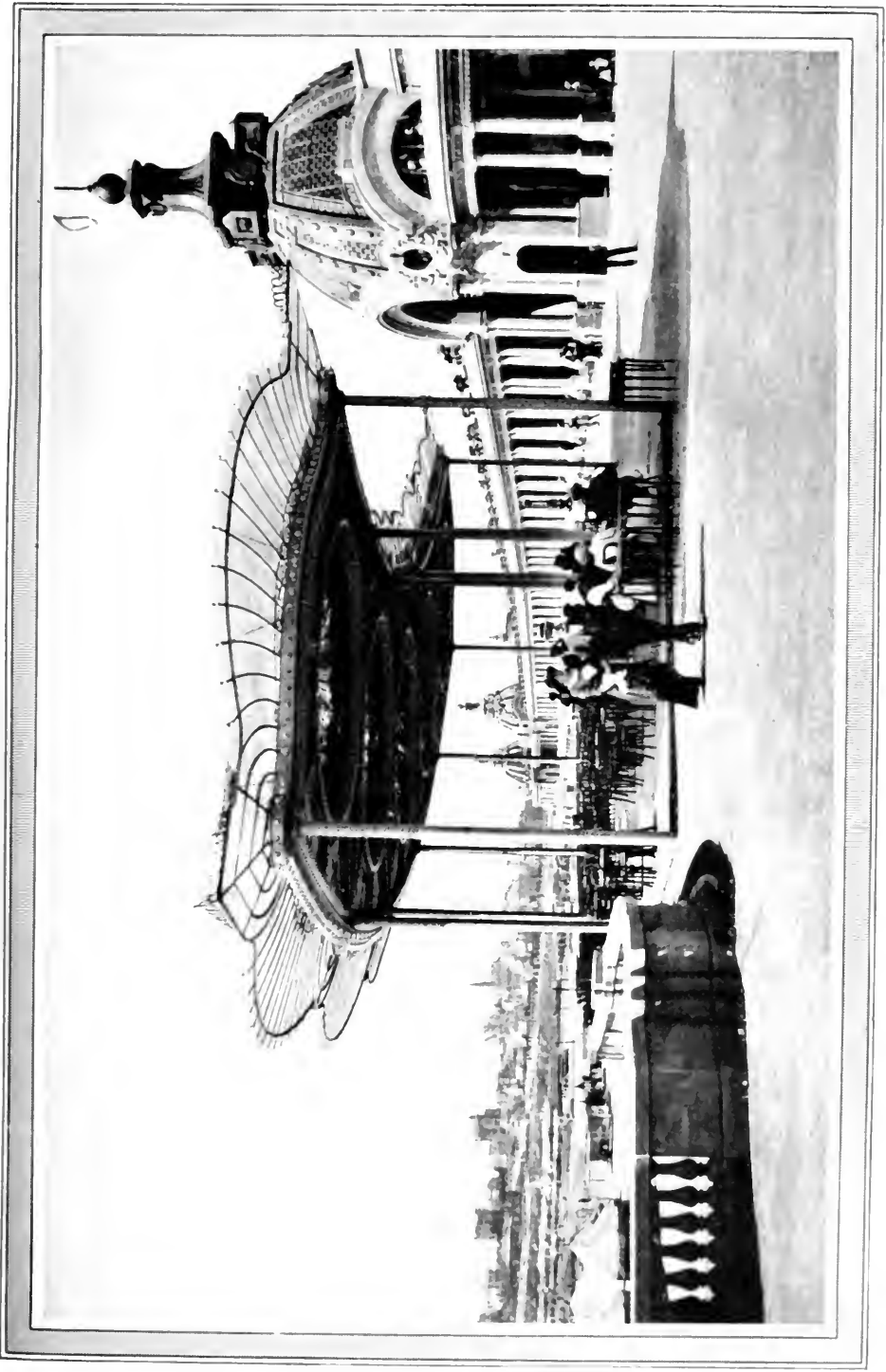
which is frequently demanded when the cold winds from the Atlantic prevail even in the summer months of November, December, and January. Visits may be made by automobile, carriage, or electric trolley to suburban resorts of Pocitos, Ramirez, and to the many beautiful parks in the city proper. The magnificent Solis theater is one of the attractions for the stranger to visit; at the Cathedral, especially on Sunday mornings, a line of splendidly dressed people arriving and departing by motor cars and afoot give one a glimpse of the aristocratic classes. Many visitors enjoy a drive to the Cerro, the great hill that dominates the city and from which a fine view is obtained. Paseo de Molino and Plaza Matrix should be visited.

Uruguay is the smallest of the South American Republics, being about the size of the New England States; it is a very prosperous agricultural and pastoral land, and claims the "largest kitchen in the world" at Frey Bentos, where approximately 2,000 cattle are turned into beef extract daily. The latter city is off the average tourist's itinerary, but if time permits it may be reached in a few hours by rail from Montevideo.

About a hundred miles up the River Plata, or 5,860 miles from New York, lies the largest city of the continent—Buenos Aires. To-day the latter has a population of 1,700,000, and its peoples form a cosmopolitan mass, gathered from all parts of the world. Argentine immigration in normal times averages nearly 1,000 persons a day, most of whom drift to the country to find work on the hacienda or farm. Fine hotels are to be enjoyed; and to many tourists the gay life along the Avenida de Mayo will make strong appeals. Hotels and cafés on this great avenue are numerous and there is always a constant flow of people. At one end of this avenue stands the capitol of the nation; at the other end, in the Government Palace, are situated the various offices of government.

So many important things press upon the tourist's attention in Buenos Aires that one will find it best to map out a course based on his inclination and desires, unless there are weeks of time available for getting acquainted with the great city and its activities. The guide book, Baedeker of the Argentine, may be found at leading bookstores. This admirable work is by Albert B. Martinez, a native Argentine, and its 500 pages contain a fund of information suitable for all classes of tourists, not only for those visiting the capital but for those interested in other sections of the country. There is an English edition; and one of the most important chapters for the tourist is "How to employ one's time."

The following are some of the important places visited by the average tourist: Government Palace, Capitol Building, Recoleta Cemetery, Jockey Club Building and also the race course, Colon Theater, the wool market at Riachuelo, Fine Arts Museum, water



MAR DEL PLATA, ARGENTINA.

During the day, the summer season, summer season. Special day and night trains are operated in addition to the regular service from Buenos Aires. The distance from the capital is about 250 miles.

works, Palermo, Tigre, etc. The writer suggests taking tea at Harrod's at about 5 p. m., when many of the members of society are usually present; a walk on Calle Florida between 4 and 6 o'clock in the afternoon to see the shopping crowds and the business men, and a ride on the new underground railroad from the Plaza de Mayo to Cabillito. Carriages and automobiles are plentiful in Buenos Aires, and the former are to be hired at very reasonable rates. For a peso (44 cents) one may drive for a number of blocks; automobiles are somewhat higher than the rates prevailing in the United States, but every driver or chauffeur has a rate card authorized by the city authorities and the stranger is thus protected against exorbitant charges.

La Plata, Argentina's model city (population 100,000), lies within 35 miles of Buenos Aires and there are many trains daily between the two cities; the former also has a number of fine Government buildings, an interesting museum, court buildings, university and observatory, and various other attractions. The round trip may be made in half a day.

Rosario, the second city of Argentina, with a population of 250,000, lies 200 miles up the Plata River; it may be reached by river steamer or by railway train, and if the tourist goes by rail and returns by steamer the time is well spent. The railway trains pass through a fine wheat section, while the river trip gives one a glimpse of the vast traffic that passes up and down the Plata.

(To be continued.)



GENERAL VIEW OF ONE OF THE MANY PARKS OF BUENOS AIRES.

UNUSUAL INDUSTRIES OF CENTRAL AMERICA¹ :: ::

WHAT tourist traveling for the first time in foreign countries does not enjoy the experience of gathering little trinkets, tokens, and knick knacks as souvenirs of the places visited? And does not that traveler seek especially those things which are peculiar to the country visited? The stranger the article and the more foreign it is in comparison to home things, the more anxious he seems to annex it to the collection. From each particular country the tourist plans to secure some little remembrance, be it plaything, ornament, or useful article, the sole idea being to take away something that will serve to bring to mind memories of the country and to recall by suggestion his association with particular places, peoples, and events.

While gathering these souvenirs, sometimes in the shape of curios and sometimes in the form of practical things, there comes to his mind a picture of the night, shortly after his return, when he will open his trunk, and in the presence of family and intimate friends he will draw forth, from the various compartments, piece by piece, the entire collection. He can almost hear himself recounting the interesting bits of story in connection with each article, how he came to secure this, where he got that, and how those things are used "down there." How he will enjoy the exclamations of surprise and admiration from the onlookers! Of the smaller trinkets he secures several of a kind, for will not his friends expect some little gift after his long absence? This is one of the delights of foreign travel and few countries, on this or the other side of the Atlantic, afford better opportunity for gathering objects of interest, trinkets, and toys of distinctive native character, than do the countries of Central America.

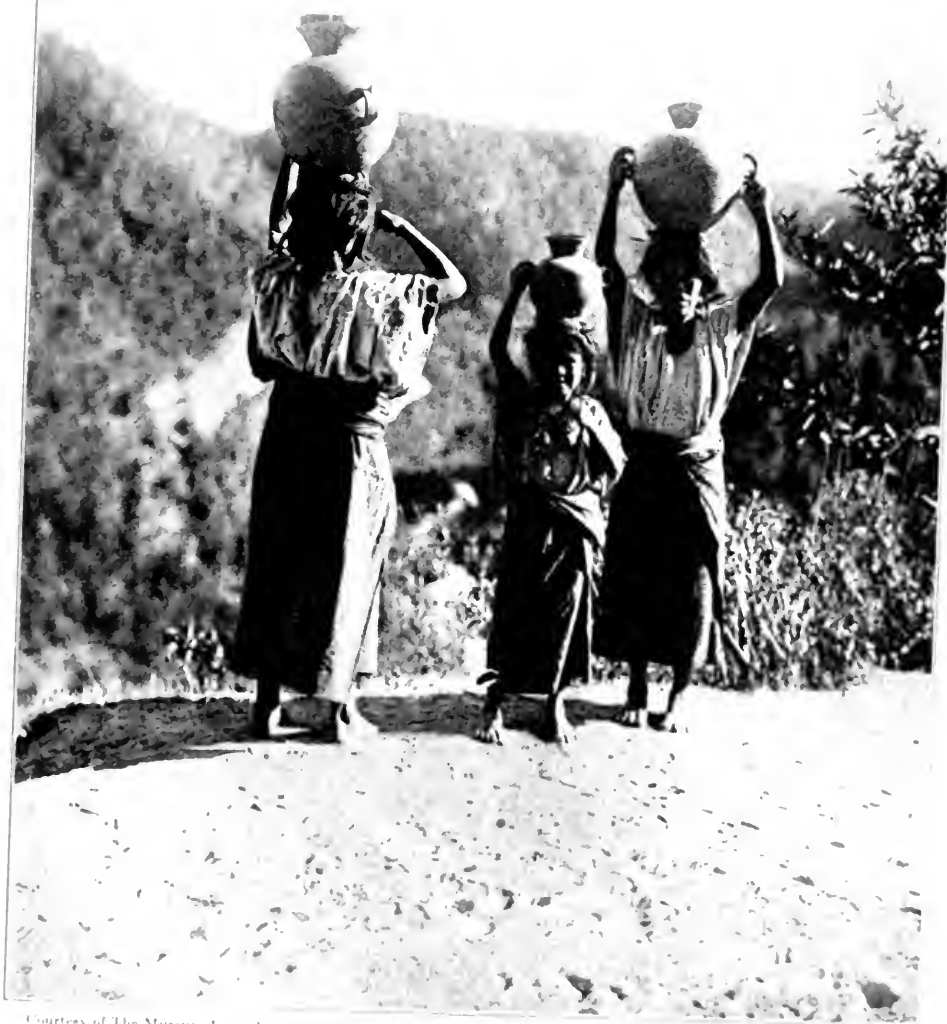
In nearly all of these lands it is possible to secure a variety of products representing home industry. These things are, of course, produced on a small scale, in limited quantities, and are intended merely for home use and even then for only a small part of the population. For it must be remembered that the true wealth of Central America lies in the soil and its agricultural and mineral products. Manufacturing on a large scale and industrial development are not yet of sufficient importance to constitute vital elements in the economic consideration of that region. But in a sense these native and home-made articles represent industry and express the ingenious

¹ By Harry O. Sandberg, of Pan American Union staff



IN FRONT OF THE MARKET IN GUATEMALA CITY.

In the central markets native products of usual and unusual character may be found in amazing variety. Within the market building the foods are attractively displayed in booths but outside these homemade products are spread out on the street in simple fashion.



Courtesy of The Museum Journal

THE WATER JAR IN GUATEMALA.

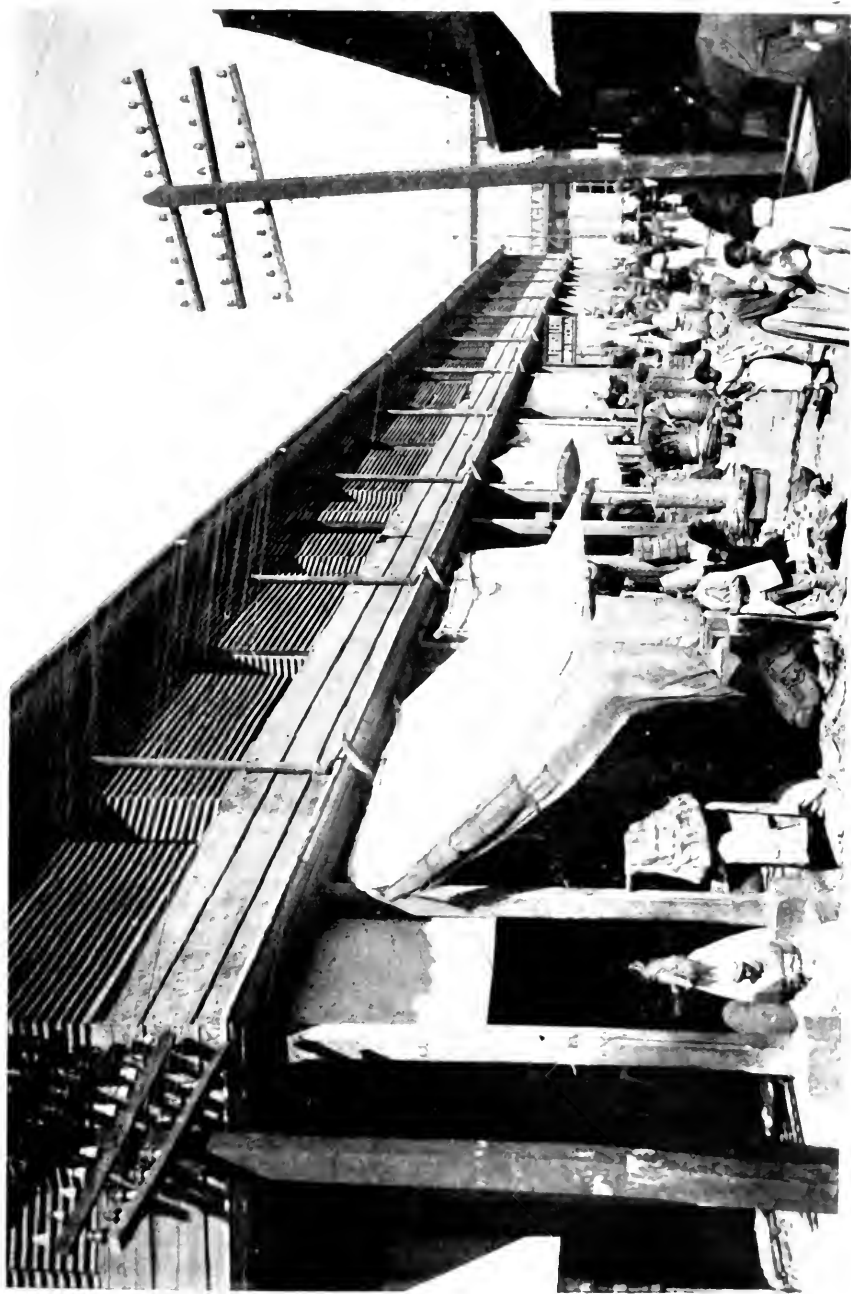
An article of pottery in general use throughout the country and a highly developed native industry. The jars are made in plain and fancy designs. One of the most picturesque scenes in Guatemala is especially in the mountainous regions that represented in the illustration. Little children, clad in costumes similar to those worn by their mothers, accompany them to the streams for water, each carrying a little jar.

and industrious nature of the people. They reflect, moreover, surprising skill and patience on the part of the workers. The sale of their handiwork is not unlike their manufacture. Each producer is his or her own salesman. Occasionally where a particular object has become general in its use either as an ornamental piece or as a serviceable article, its manufacture is carried on in communal fashion by a group who combine their simple facilities and share the results of their labors. But as a general rule the individual who makes the article is the one who comes to the market or takes his place in the public square, there to offer for sale his wares or to barter them with his fellow tradesmen for other things.

Because of the demand for many of these articles by the tourist and traveler a number of shops arrange with the individual "manufacturers" to purchase from them their continual output and then realize a handsome profit in the resale. The prices they pay to the native worker are surprisingly low. However, the latter is satisfied, as it affords him a steady market for his work, and if perchance he makes a few additional sales in the plaza or market place he augments his profits by that much. The fact is it keeps the people profitably engaged, and were a foreign market established for the many pretty things which are produced it would mean the development of those home industries on a large scale as well as prove a profitable undertaking to the enterprising dealers.

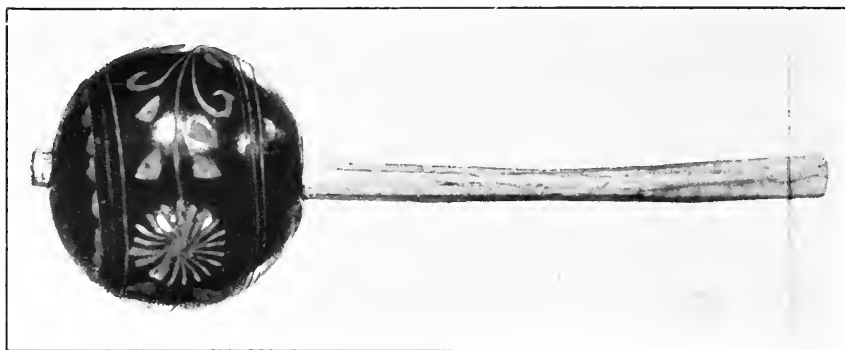
To obtain a good idea of the variety, kind, and character of such products as have been referred to a number of times, one should betake himself to the central market. In the capitals these market places are remarkable institutions. In the other cities and towns the size of the market is in accordance with the size and importance of the place. But be the market large or small, it is there that one finds the native industries arrayed in all their glory. From around the surrounding country the people bring their wares, each person displaying some peculiar knack in the make-up of his article, each vicinity offering something different from the next, and each country producing or excelling in some particular thing. Pottery and crockery, silk and cotton, straw and rope, leather and skins, silver and stones, these are the substances from which the assortment of native industries are made—a hundred and one little things of usefulness and ornament to meet the wants of some people and to charm and fascinate others.

In passing through Guatemala who has not stopped, admired, and then acquired several of the famous guacales, the bowl-like receptacles curved from the gourd, calabash, and coconut shell? The calabash variety is the most common and attractive. They are hand carved, colored in black, and the designs are sometimes tinted with vegetable colors. But the standard guacale is the black and



IN THE MARKET AT SAN SALVADOR, SALVADOR.

The market place furnishes a touch of local color not seen elsewhere. The maker of a toy or trinket, the weaver of a scarf or blanket, and the designer of a basket or hammock, brings his product to the market either to sell it or barter it for some other commodity.



A "GUACAL," A RECEPTACLE MADE OF CALABASH.

These "guacales" are made up in a variety of sizes and shapes and are very artistically carved. They may be used for receiving trays, fruit bowls, and even as ornaments. They are inexpensive and would prove to be good sellers. The baby rattle is also a product of the calabash.



THE NATIVE BASKETS.

They are woven from colored strands and may be seen on many a table and dresser serving a useful purpose. Like the "pinet" the baskets are made from the tiniest toy size to that of more practical proportions. Pretty and inexpensive, they, too, prove very salable articles.

white as shown in the illustration. They come in every size and vary in depth from the shallow to the deep bowl. They are used as ordinary trays, fruit bowls, receiving jars—in fact, for nearly all the purposes that glass and china vessels of similar shape and design are used. The carvings are done by hand and display artistic temperaments. The designs run from the conventional birds and animals through the long line of geometric figures and combinations. Frequently figures of people enter into the carvings, as does also the national coat of arms of the country. In every home several of these guacales may be seen either as ornaments or as useful trays. As decorations they are hung up or adorn the panels in the same manner as do steins, china and copper plates. These guacales can be purchased from the market vender or in the stores at prices ranging from 5 cents to 25 cents for the larger and more elaborate ones.

Pottery and ceramic work are industries of prehistoric times in these countries. Modern explorations are constantly bringing to light bowls, vases, jars, dishes, and other vessels fashioned often in crude form but so well baked and so skillfully tinted with colors that centuries of exposure to the elements or concealment beneath the earth have failed to destroy them or to wash away the colorings. And the pottery of to-day indicates that the descendants of those early artisans have by no means forgotten the art. Remarkably good pottery is produced by them. Many of the pieces show a high degree of skill and real artistic feeling. The utensil most commonly used is the water jar, and this is made in a number of different shapes and sizes, some plain and some highly embellished. Seated in the plaza or market place the pottery salesman or saleswoman has a vast selection of these goods on display. Imitating the larger pieces the artisans of clay and kiln make little miniatures for the children, and these range from the tiniest to the regular toy size. They make not only dishes and jars but ducks, hens, and other animals, and frequently an air hole is provided in the birds so that the piece may be blown as a whistle.

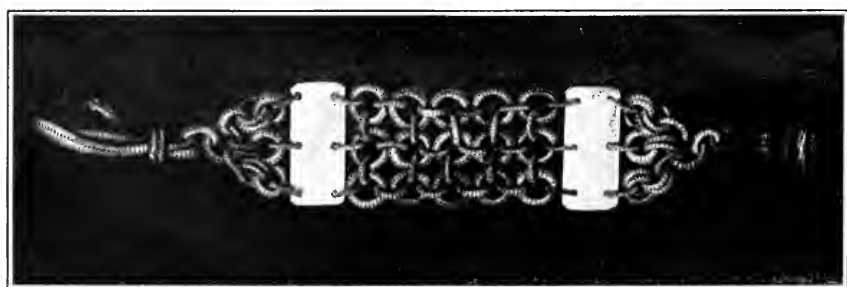
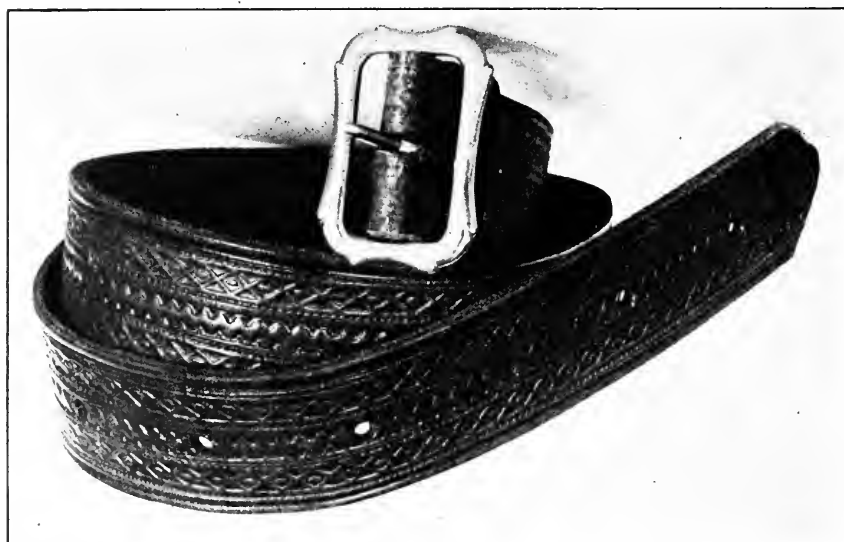
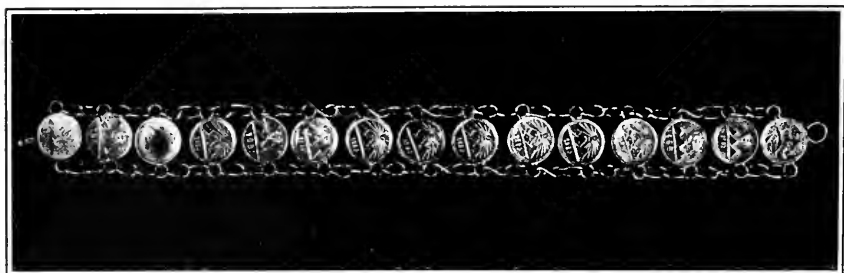
Basket making from straw is another native industry displaying good workmanship. The baskets are made in a wide variety of shapes and sizes, and are adaptable for use as workbaskets, candy baskets, receptacles for fruit, suitable for marketing purposes, and even run to the laundry size. The smaller ones for ornamental and table use are woven from highly colored straws, and the clever arrangement of the strands presents a rather brilliant article with bright blue, red, green, and yellow shades predominating.

Rope made from locally grown fibers affords material for another home industry. Hammocks form the chief item of this craft, and especially in Nicaragua, where the soft, silk-like rope is so freely



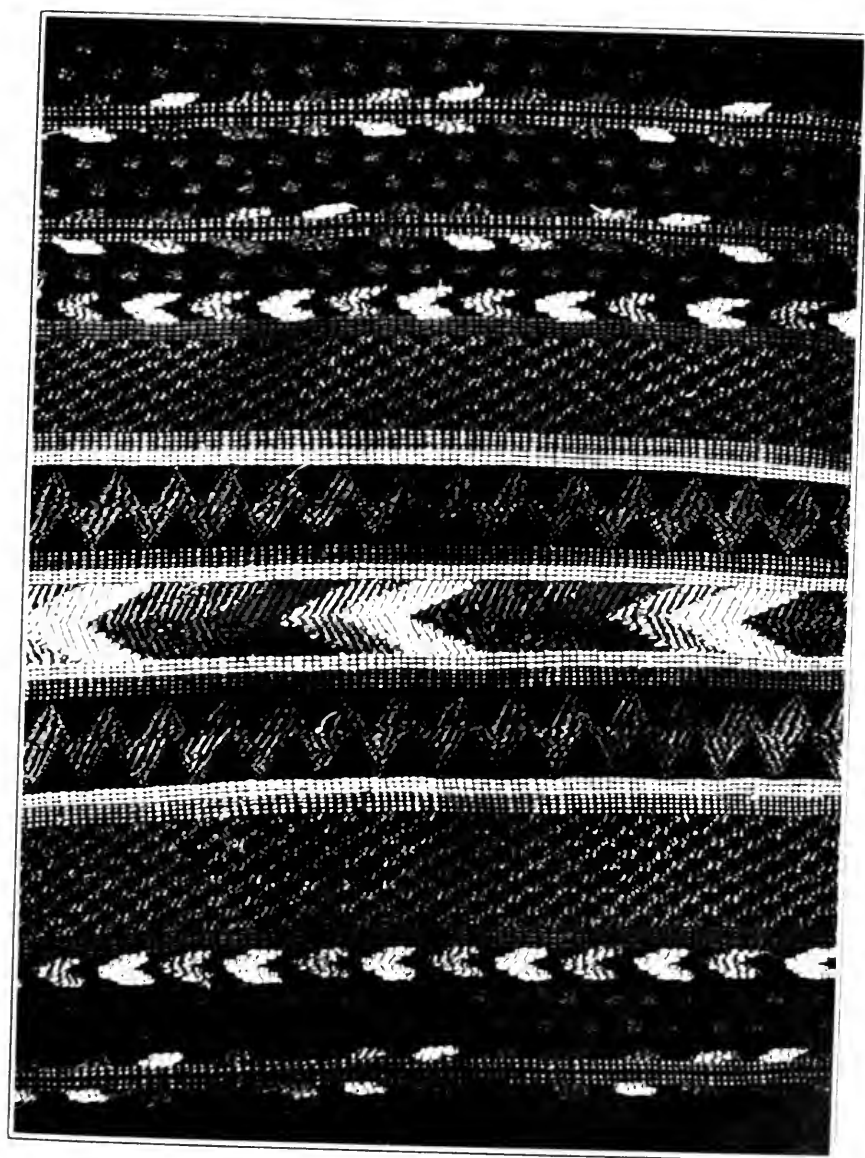
SOME HANDMADE TOYS.

Among the little playthings, made by hand and revealing the deft fingers and infinite patience of the worker are the wax birds and the carved peach stones. The birds are made of wax and covered with bits of real feathers. They represent the more common varieties of bird life of the country. From an ordinary peach stone some of the clever workers carve animals, heads, and other curious and grotesque figures.



NOVELTIES OF NATIVE MAKE.

Top: A handmade bracelet of the small denomination silver coins. Center: A belt made of embossed and pressed leather. Bottom: A fob woven from horsehair.



THE FRONT OF THE "JUPEL" OR WAIST.

The explanation on the reverse, how strange designs and rich bloridings of color. While bright colors predominate many pretty patterns are introduced in other bands. Certain of the natives wear the "jupel," but others, and especially foreigners, transform the waist into pullover or other article for decorative uses.

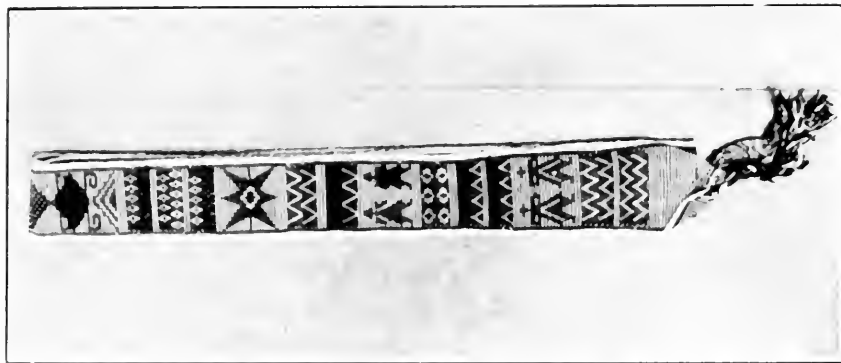
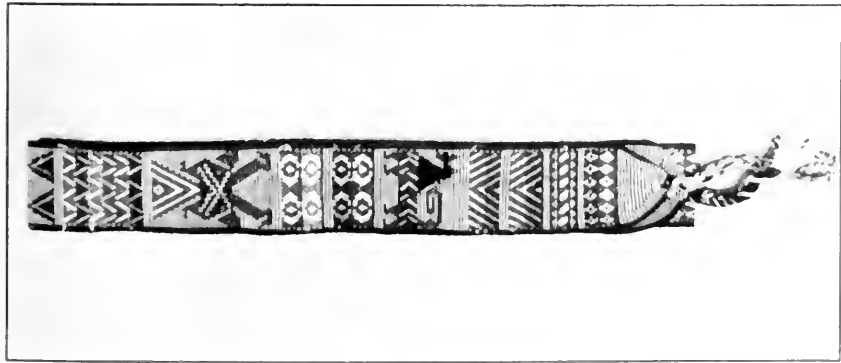
used, this product is of considerable importance commercially. Marketing bags, saddlebags, whips, reins, and different articles of saddlery are made from rope, and the fondness for colors finds an outlet in the dyed fibers that are used.

While on the products of fiber and weaving mention should be made of the chains, necklaces, watch fobs, fan holders, etc., that are made from horsehair, particularly in Honduras. The chains alternate in their links between white, black, and gray. Round links, square links, requiring infinite patience and subtle fingers to bend and weave, enter into the making of these articles. The cleverly wrought neck chains for the ladies are made of bleached white hair, while watch fobs are woven from black and white to present a contrastive effect. Horsehair is frequently used for embellishing articles of saddlery. Cruppers of a most ornate character are made by the skillful worker and the exquisitely wrought designs, stars and geometric figures, tassels and fringes, made from alternate strands of white and black hair, excite the highest admiration. Frequently these cruppers are too beautiful for the use intended and a purchaser will utilize it as a library or hall decoration or as a rack for hanging things on.

Leather and tiger and puma skins are made use of in novel fashion. In Central America, where much of the interior traveling is done on horse or mule back, everyone has his own riding equipment. The fondness for fancy work is apparent even in these goods as indicated by the use of embossed leather. Puttees, saddlebags, belts, holsters, and even reins are made of pressed leather. Shoes and house slippers are made of this leather with the uppers cut from the furs; the spotted-tiger pelt is also used for decorating riding equipment.

As for distinctive and interesting costumes and articles of wearing apparel, Guatemala affords a variety that is strangely fascinating. For the lover of native work, made by people who are following designs hundreds of years old and using the best of materials, this is a rich field. The seeker of novelties finds a bewildering display of things, bright and brilliant in their colorings, and depicting in their designs birds, animals, arrow patterns, geometric figures, and many combinations thereof. But the curious feature of these various pieces of apparel is that each one lends itself to some decorative or ornamental purpose entirely different from the original use to which it is put by the people who make them.

The juipil, for instance, is the waist worn by the native women. It is made of a cotton fabric woven on crude hand looms; on the front and back of the waist there is embroidered a variety of designs in the strangest and richest blending of colors. While one can not always consider the color schemes harmonious, yet the design and



A COLLAR AND BELT OF NATIVE MAKE.

The center article is a neck piece with embroidered flowers, an added feature of mihiady's wardrobe. The "faji," or belt shown on either end is heavily embroidered similar to tapestry work. These collars may be seen in many places converted into coverings for lamp shades, while the belts are adaptable to a number of ornamental purposes.



A GUATEMALAN DOLL.

There is something decidedly ingenious in the make-up of these cloth dolls, although in comparison to the highly polished dolls of wax and china they appear simple and probably crude. Every detail of dress and habit is carefully portrayed in this local product.



A GUATEMALAN DOLL.

A collection of these dolls would furnish excellent material for a study of the difference in costume and habits of the people from the various localities. The doll in the illustration is carrying a basket on her head; the design and color of her dress tell the Province she is from. The doll in the preceding illustration carries a bundle rather than a basket; her dress material is also different. It is an interesting fact that the women from this latter Province consider it beneath their station to carry a basket on the head.

character of arrangement are such as to make the garment exceedingly attractive and the colors never seem to clash, however loud and brilliant they appear. An interesting fact concerning the juipil is that the women in different sections of the country lean toward certain color schemes and designs, so that it is possible to tell what part of the country one comes from by a knowledge of the various tendencies. While the juipil may not be used as a waist here, nevertheless the peculiar cut of the garment lends itself admirably to pillow covers, and some of the handsomest embroidered pillows with gayest and richest colorings to be found in Guatemala are the transformed juipil.

The rebozo, or shoulder shawls, make fine mantel and couch covers; the faja, or belt, and other articles can be utilized as draperies, curtains, and such things. Little doilies, tablecloths, and napkins, woven from this coarse cotton texture with daintily embroidered edges, are used by even the better classes for tea service.

Salvador, too, produces a certain amount of silks of good quality, and for home consumption. The finished product is generally used in the manufacture of the rebozo, or shawl, and comes in solid colors of white, yellow, pink, red, and blue. There is not, however, the variety of design or embroidery that characterize the shawl of Guatemala, the only deviation from the solid colors being a quality known as changeable silk of red, blue, and gray combinations.

In the higher regions of Guatemala, especially in Quezaltenango, which rises some 11,000 feet above sea level, where the days are cool and the nights cold, the people need heavier clothing. This necessity has brought about another native industry, namely, the manufacture of wool. The natives weave this on narrow looms and then carefully sew together the two pieces. The finished cloth is fine and soft in texture and the design is usually beautiful. The size of the looms produces a piece of wool large enough for use as a blanket or steamer rug, while many visitors carry off several pieces to use in the making of a sport coat. A good pair of blankets can be bought for \$5 in the market places from the native weavers.

As for articles of jewelry, handmade silver ornaments find especial favor. The work is exceptionally good, and the trinkets include bracelets, earrings, rings, pins, and such novelties. The silver is obtained by melting the heavier coins, while smaller silver coins enter into the design of the articles. Souvenir spoons, plates, salt and pepper shakers, diminutive tables, chairs, and similar trinkets are made of a combination of silver coins and prove to be very attractive pieces.

In the matter of toys, the articles produced are extremely ingenious, and though they are somewhat crude in their finished appearance



A GUATEMALAN DOLL.

A "cargador," or porter, with his load. The faithfulness in the make up of these dolls is shown in the little cups, water jars, bits of straw, and numerous other objects which constitute the load of the real carrier.



A GUATEMALAN DOLL.

A "cargador," or porter, at rest. Removing the hat and placing it on the pack seems but a trivial thing; yet it is an almost invariable characteristic of the "cargador," and the maker of the doll has not overlooked it.

they none the less reveal a remarkable resourcefulness on the part of their makers. There are, for instance, the miniature pieces of furniture. These are made in the carpentry shops of the training schools and vary in appearance from a roughly crude article to a piece of highly skilled workmanship.

The wax birds are perhaps the best examples of clever workmanship and are really a work of skill. With wax as a basis and a piece of wire for a form the deft fingers of the worker produce a wonderful series of little birds representing the types common to the country. Real feathers and in their natural color artfully cover them, and as the 10 or 12 birds, the male and female of a species, stand attached to the card, they are almost lifelike in the faithfulness of their make-up. The chicken, zopilote, crane, duck, heron, guinea hen, and turkey are those most frequently made.

And then comes the king, or shall we say, queen of the toy kingdom, the doll. Not the finished wax doll nor the solid china doll, nor even the celluloid or rubber doll, but just the ordinary stuffed cloth doll.

And yet it is hardly fair to refer to them as ordinary for in the imitation of the different types an amazing accuracy of detail and attention to the minutest characteristic are displayed. The dolls are made of cloth and the features are embroidered, but what is most interesting is the position in which the doll stands and the costume in which it is clad. The juipil, the faja, the rebozo, all are consistently embroidered in the color and design of the particular type. Nor are the ornamental features overlooked. One doll is wearing glass beads, another a chain made of coins; the peculiar style of earring affected is observed; one type is carrying a basket with produce and from the top of the basket peep out the feathers of a chicken, the fruit she has to sell or even the few articles of pottery she is carrying; another type which deems it beneath its station to carry a basket on the head carries its burden in the shape of a bundle on her back; and so on through the different sections of the country and the different classes of people, these dolls with a faithfulness that is truly educational reveal the habits and customs of the land. The same is true of the male dolls. The men, too, affect different colors and costumes and the dolls do not fail to show these differences. The most usual type seen is the cargador or carrier. In the illustration may be seen two most characteristic poses, the one man carrying his load and the other one resting it. Each load carries the drinking cup, some pottery, plus any other articles that the porter may have. In resting it is a curious fact that the porter always removes his hat and places it on the pack. This is shown in the accompanying picture. No wonder these dolls are so popular and are fondled so happily by the little children, for in them they find the expression of the very life they are living and the very people who are their own.

LATIN-AMERICAN EXPORTS: AN OPPORTUNITY

LATIN-AMERICAN exports represent about \$1,600,000,000 a year in value. Practically all of this is raw material and primary food products. Large as the figures appear, they are but small as compared with the possibilities of production in the 20 Republics. From Mexico to Chile there is scarcely a country which could not increase its exports fivefold, most of them tenfold, and some even a hundredfold. The mineral resources of Latin America are not developed to one-tenth of a reasonable and normal production, the forests are almost untouched, agriculture has not claimed for its own 5 per cent of the lands lying ready for the plow, and seas of luscious natural grasses ripple to the winds, with never a horse nor ox nor sheep to browse upon their richness. Notwithstanding production figures that in the aggregate look large, yet considering the vast territory and great natural resources Latin America is almost a virgin land. *Capitales y brazos*—capital and labor—these are what Latin America needs for development. Capital to build the roads, to plant and stock the lands, to open the mines, and to set the wheels of industry agoing; strong arms to wield the pick, the shovel, and the ax, to guide the plow, to sow and reap, to drive the engines, and to tend the flocks.

The problem is a simple one in its primary elements; it becomes complex in that its solution is bound up in the general progress of the world. Latin America marches as the world marches. So one may say of any part of the world, and it is true, but not in the same degree. Latin America is unusually sensitive to world progress. Scarcely any other part of the world is so directly responsive to world conditions as the 20 Republics from Mexico to Chile. Countries having a great and complex industrial development are in a large measure self-centered and self-sustaining. For example, the foreign trade of the United States for the last 50 years has been a minor element in its industrial progress. The production for domestic consumption represented over 90 per cent of the industry of the country, and much less than 10 per cent of this consumption was of foreign products. In other words, the country exported only about one-tenth of what it produced and imported less than one-tenth of what it consumed. Germany, Austria, France, and Italy are examples of countries more or less self-centered and self-sufficient, as each of these has demonstrated in the present war. Brazil, Argentina, Chile, and the other 17 Latin Republics of America are not self-



Courtesy of The National Geographic Society.

HARVESTING COFFEE IN BRAZIL.

centered. In comparison to consumption, they produce overwhelmingly certain things—the production of which represents their principal industries. For example, of the two leading industries of Brazil, coffee and rubber, accounting for about 60 per cent of the total industry, Brazil consumes in the raw state no rubber and very little coffee. Cotton and tobacco are also important industries. The bulk of the cotton is consumed in the country and something more than one-half of the tobacco, but most of the hides and skins are exported and nearly all the minerals. In Argentina the domestic consumption does not account for more than one-fourth of the grain production and about one-third of the meat production. Over 80 per cent of the wool and hides are exported. In Chile, minerals represent over 60 per cent of national industry and 90 per cent of exports. A negligible quantity of these minerals, the most important of which are nitrate of soda and copper, are consumed in the country.

And so it is with all the other countries. They consume only a very small portion of their own products.

On the other hand, imported goods supply almost the entire consumption of most so-called manufactures.

It is easy to see, then, why Latin America is so peculiarly sensitive to outside conditions, since it is in the foreign market that it must sell nearly all it produces and in the same market must buy much of what it needs, including in many lines all of what it needs.

Furthermore, Latin-American production as it exists is to a large extent dependent upon foreign capital and in a measure upon foreign labor. Its further development is almost entirely dependent upon these two agencies.

Much has been written and said about the Latin-American import market, of what Latin America buys and where, of British, German, French, and American rivalry for this trade. The desirability of buying from Latin America may not be quite so evident, yet in this instance to buy is much more profitable than to sell—in the highest degree this is true for the United States—because in the main it buys of Latin America, not luxuries nor superfluities, such as to a large extent it buys of Europe, not the things which it can itself produce, but the things it can neither make nor grow. On the other hand, for the things the United States does produce, but not sufficiently cheap or in sufficient quantities, Latin America is the storehouse from which it can complete its needed quota. Buying of raw material is the basis of industry. It bears no relation whatever to any other kind of buying. The United States buys of Great Britain, Germany, France, and Italy clothing, ornaments, jewelry, luxuries of all kinds, manufactures of every degree of fabrication. These all are or may be necessary to the comfort, well-being, and happiness of its people, but scarcely an article bought from Europe that may not be produced in the United



BRINGING IN SUGAR CANE FROM THE FIELDS IN CUBA



Courtesy of Missouri Botanical Garden Bulletin.

THE VANILLA BEAN OF MEXICO AND CENTRAL AMERICA.

The plant is an orchid and is said to be the only one of the orchid kind having an industrial use. It has been cultivated in several parts of the world, but the finest grades of beans are those obtained in Mexico and the Central American States.

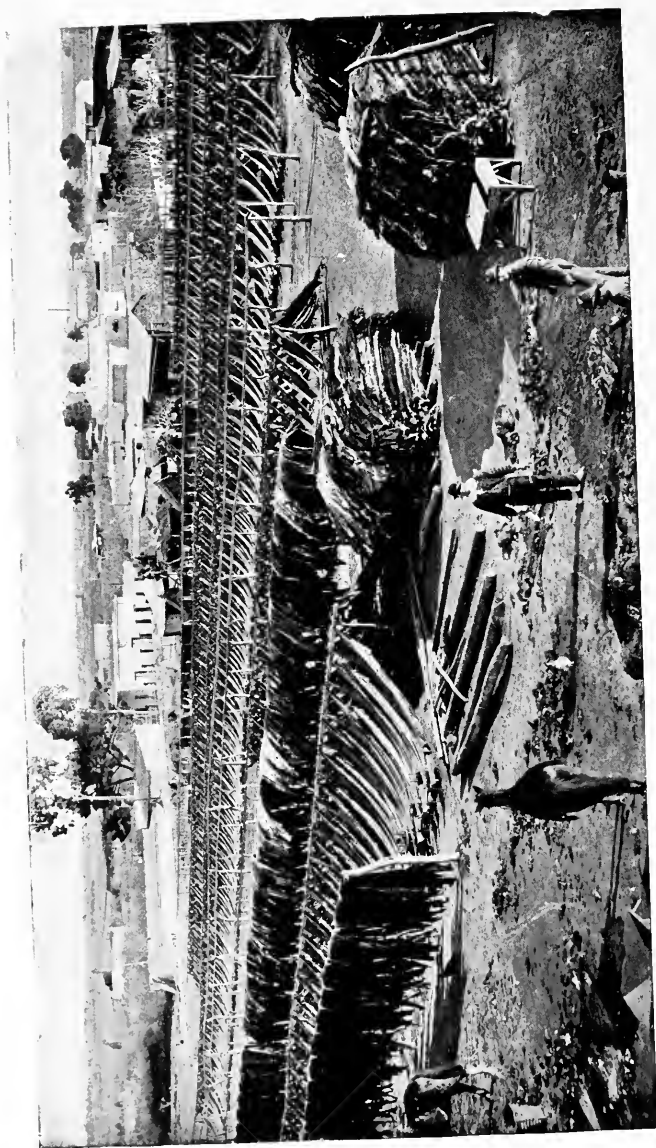
States. Only a relatively small part of these imports from Europe enter into the productive industry of this country. On the contrary, almost everything imported from Latin America enters directly into productive industry.

The cordage industry of the United States, especially that subdivision that manufactures binder twine, is based upon the imports of Mexican sisal. In turn the binder-twine industry is a necessary adjunct to the broader agricultural industry.

Without Latin-American hides and skins the great leather industries of the United States, which for volume and excellence of product are far ahead of any country in Europe, would sink into comparative insignificance. Large as appears the domestic production of raw cattle hides it could not supply the domestic consumption. The boot and shoe, harness and saddlery, binding and art leather, trunk and bag, glove, belting, and tanning industries of the United States as they exist are in reality built upon imports of cattle, horse, sheep, goat, deer, porpoise, and other skins largely from Latin America.

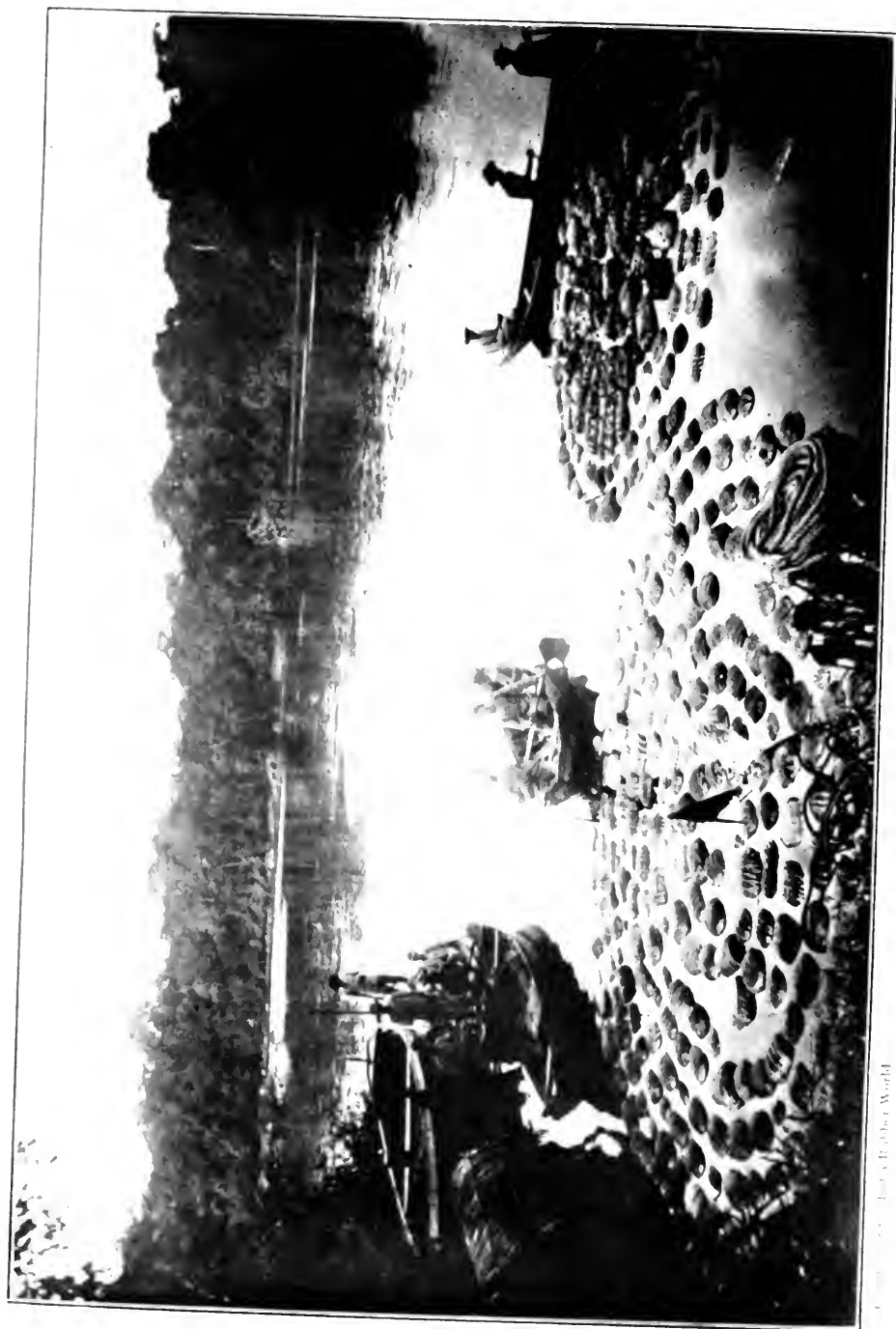
Likewise some of the materials for tanning and dressing these skins and hides are from Latin America. The United States imports annually from 35,000 to 60,000 tons of the tanning extract obtained from the quebracho tree of South America.

The wool industries of the United States, as is well known, are not so well developed comparatively to Europe as are the leather industries. As yet the wool industries are not equal to caring for domestic consumption, and of exportation there is but little. Nevertheless the industries are important and give employment to thousands of workers and millions of dollars capital. Without imported wool these clothing and carpet industries could scarcely exist even on a very reduced scale. Prior to the war Latin America supplied about one-eighth of the wool imports of the United States; since the war (in 1915), with an importation increased over one-third, it supplied nearly one-fourth. In 1915 there was imported from Argentina alone 657,373,000 pounds of wool classed as "clothing wool." One of the most important imports of the United States is raw sugar, and over 90 per cent of this is cane sugar from the Latin-American countries. Sugar is a food, but industrially it is in the same class with wool and leather. Sugar must be refined, and the sugar-refining industry of itself is one of the most important in the country. But refining sugar is not the only industry fed by sugar imports. The fruit-preserving, confectionery, baking, and meat-packing industries all depend upon sugar. The United States has never developed the fruit-preserving, jam, sweetmeat, and biscuit industries to anything like the development in Europe, in particular in England and Scotland, where these industries account for one of the most important lines of British export trade. Akin to the sugar industry is cacao,



DRYING HIDES IN ARGENTINA.

About one-half of the hides exported from Argentina, Uruguay, and Paraguay are the so-called "flint hides." They are sundried until they become almost as hard as iron.



RUBBER RAFTS ON THE MACHADO RIVER, BRAZIL.
Most Brazilian rubber is produced in the form of large balls, or balloons.

the basis of chocolate foods, sweetmeats, and certain toilet and medicinal preparations. The cacao industries are underdeveloped in the United States.

Given the economic status that the United States can compete with Europe in metal manufactures on an equal footing, that is to say, that it is in a position to make a serious bid for export trade, then Latin America offers an almost unlimited storehouse from which to draw the raw material for such manufactures. No one at all familiar with the facts for an instant doubts that in nearly every line of metal fabrication the United States is at least on a par with Europe. This has been proven time and again in every part of the export field. The United States is blessed with large natural resources as feeders to the metal industries, but there is no reason why these industries should be circumscribed within the boundaries of the domestic resources. It is not thus that other manufacturing countries, England, Germany, France, and others have built, and if it would reach its manifest destiny as a great manufacturing and exporting country it is not thus that the United States must build. Rather, grapples should be thrown out over all the world to gather in the raw products of all countries as feeders to American industry.

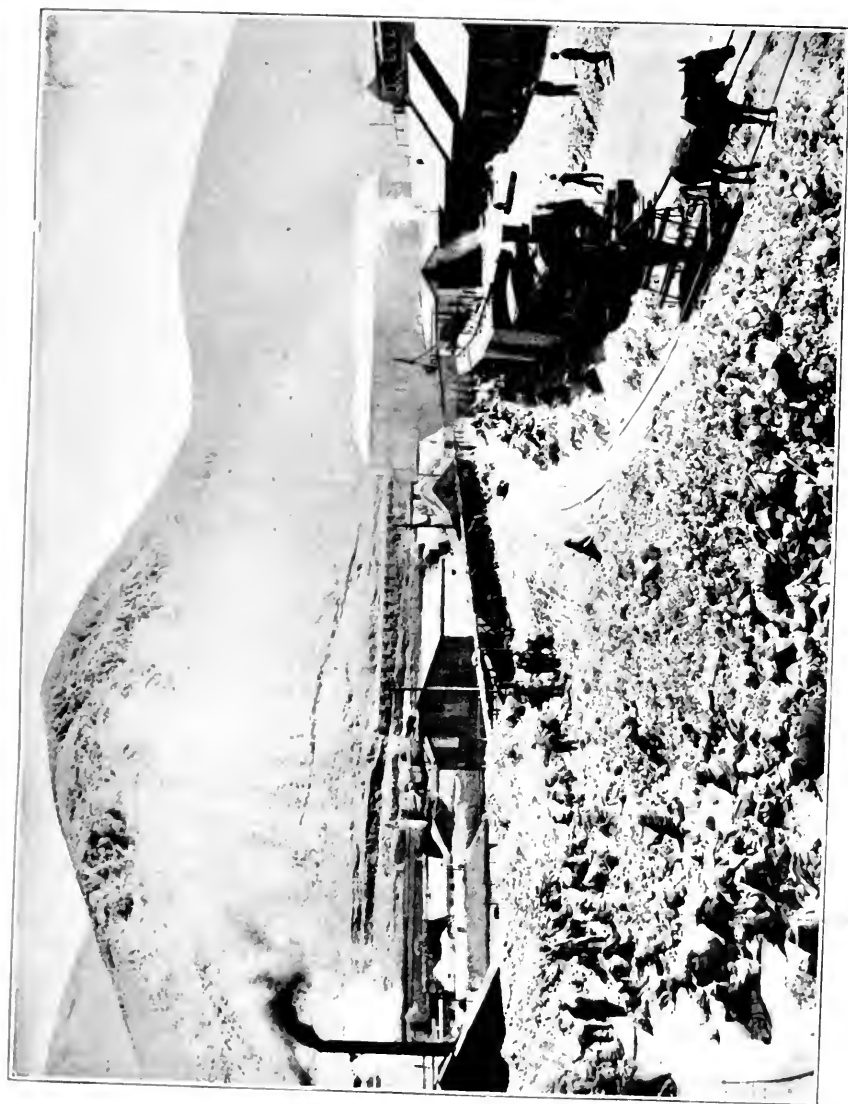
Copper: Latin America is the world's greatest storehouse of copper, and broadly speaking it costs on an average not more than one-half as much to produce as elsewhere.

Tin: The production of this metal might be increased fivefold. Until quite recently the United States has used no South American tin.

Bismuth, tungsten, vanadium, borax, zinc, lead, gold, and silver offer great possibilities. In the great nitrate field of northern Chile American capital and American enterprise is almost unrepresented. Nitrate is one of the world's prime necessities both in time of war and in time of peace.

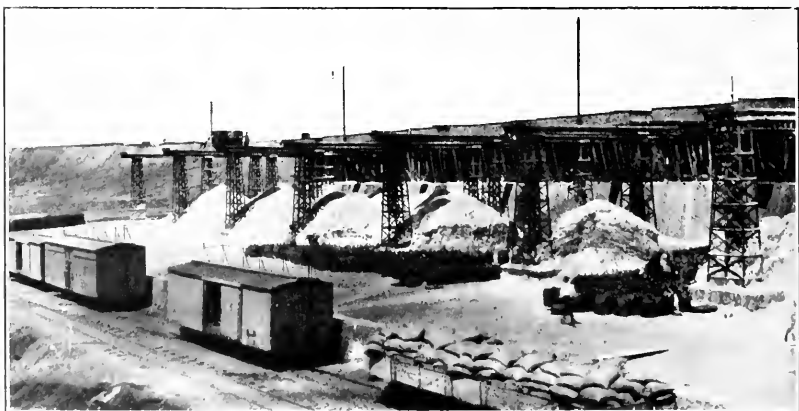
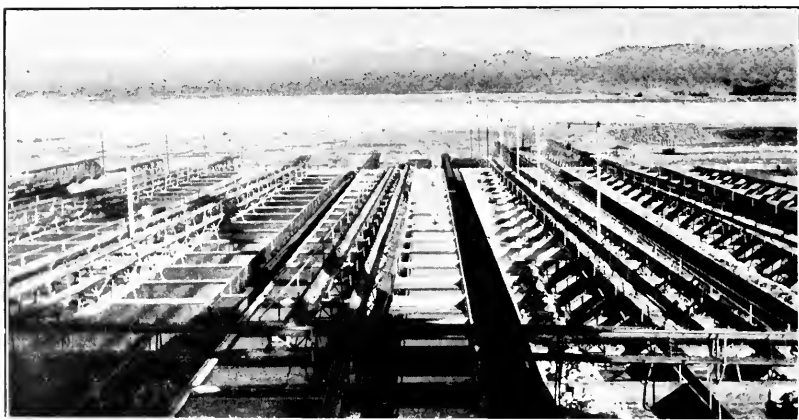
To buy is better than to sell; that is, when it is the right kind of thing that is bought. The quite common American attitude of mind which decries any increase in imports and extolls any increase in exports has a basis of reason when the reference in imports is to manufactures which might be produced in the country. Importing raw materials for use in manufacture, to give employment to capital, skill, and labor is the very best kind of business. Exporting the same kind of materials is bad business and only to be tolerated as a necessary step in progress from a primitive to a more complex state of industrial development. Selling raw cotton, iron, coal, lumber, wheat, cattle, and the like is as if the workman sold the tools and materials of his trade. It can only be defended when he has a great supply of material and tools and but little work to do. At the best it is to furnish a club to his rival to crack his own head.

What is the meaning of the new trade agreements now proposed in Europe to be put into effect following the war? Are they trade sell-



A TIN MINE AT PUCACAYO, BOLIVIA.

At present most of the ores are hand sorted. In this work the Bolivian native Indians, and particularly the women, become very expert.



NITRATE OF SODA, CHILE.

Nitrate of soda is a necessary ingredient in the production of high explosives and is the most valuable of all fertilizers. Top picture: The natural rock or "caliche" as it is dug from the ground. Center picture: Crystallizing the nitrate. Lower picture: The nitrate in bulk delivered at the coast to be bagged and shipped abroad.

ing agreements? By no means. On the contrary their basis is buying, and the conservation and control of the materials of manufacture. As a weapon of offense they mean the shutting out of the rival from drawing in, not from pouring out. Cut off the raw material and the export trade in manufactures of nearly every European country will dry up. So long as one country has the raw material and produces better and cheaper than another country it can not be seriously hampered or as to its exports shut out from the markets of the world by any action short of war. But cut off the raw material and the whole fabric must fall.

Whether these proposed trade agreements are ever concluded, whether they become effective, or whether it is possible to make them effective may be a question or series of questions, but the fact is indisputable that the principal countries engaged in this war on both sides see the problem of industrial expansion and national trade rivalry from the same angle of view. It is equally true that in the United States the European view is not understood nor is any thought or attention given to it. Yet if it be nothing more than an attitude of mind incapable in any event of producing the wished-for results, it would still be a threat and a menace to the future welfare of the United States. If, on the contrary, the idea is workable, its successful working out would result in stifling the industrial expansion of the country and relegating it to the subordinate position of purveyor of raw material. This is not to speak of political consequences.

The European purpose is to control the sources of supply of raw material and incidentally the transportation and financing of these supplies. This is to use "raw material" in the broad sense, including food supplies, coal, oil, minerals, timber, and in fact everything which may feed manufacturing itself or the laborers in the factories.

At the beginning of the European war the sentiment was almost unanimous in the United States that this war would mean the industrial decay and perhaps destruction of Europe. That from the war-racked, debt-overburdened, and decimated populations of Europe, rendered unskilled in the industries of peace by the war, the United States would have in the future nothing to fear from such industrial competition.

This notion was founded on the very antithesis of fact and past experience, as the BULLETIN pointed out nearly two years ago. Now, as this idea fades away, a shudder runs through the country in fear of the "dumping" of European products following the war. If there be any such "dumping," it can only come from goods to be manufactured after the war, for except as to small and negligible quantities of certain specialties in Germany, there is no accumulated stock of goods ready, on the conclusion of peace, to be thrown on the American market. The goods must be made and they will not be

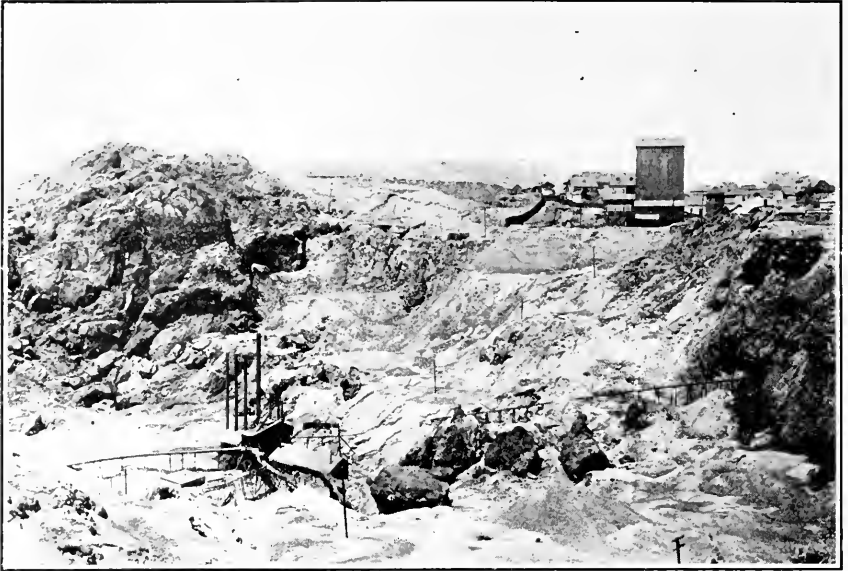


Photo by W. V. Alford.

A COPPER MINE IN PERU.



Photo by W. V. Alford.

ORE FROM THE SAME MINE.



WHITE MARBLE IN GUATEMALA.

It is recommended that it is nearly if not quite equal to the best Carrara in color and texture. The deposits are extensive and the blocks are frequently procured in large blocks without imperfections.

made to be "dumped"—i. e., to be sold regardless of cost. The dumping that will come will be of quite another sort—of goods manufactured to be sold at a profit, but at a price below what American manufacturers can meet. The chief factor in this low price will be control of raw material. Other and important factors will be increased efficiency flowing from organization, discipline, and national solidarity which, with individual economy, are the teachings and the fruits of war. The goods will be dumped over all the world wherever American trade has made a start or gotten a hold. The United States can of course control through a high tariff the dumping on its own shores, but what of its export trade in manufactures? Is it prepared to surrender this?

The opportunity of the European war, so far as this country is concerned and as applied to Latin-American trade, is less in capturing a defaulted European export trade than in securing a greater share of Latin-American exports.

The export trade to Latin America depends upon the manufacturing efficiency of the United States and upon little else. A prime factor entering into this question of efficiency is the enlargement of the import trade from Latin America. This is said not in the narrow sense that buying from a people is an excellent provocative for them to buy of you. That may be true to a certain extent, and it is also true that the double trade, going and coming, creates a sound banking and financial condition, stabilizes freight rates, and develops transportation facilities. But buying from Latin America has a larger and deeper import for the United States and it is here in the larger view that the question is treated. The battle for commercial supremacy in the future will be fought out by the manufacturers and not by middle men or salesmen. The country that can produce best and cheapest and employs the greatest number of units of production will go to the front. The United States must have the raw material, all that nature has stored within its own boundaries or that man can produce therein, and in addition all that it can draw to itself from the outside.

The European war has taught that the field of manufacturing activity in the United States is too narrow. Many of the products of Latin America at present scarcely known in the country have been utilized abroad and should be utilized here. Latin America is underdeveloped in every productive sense. American capital and skill should assist in this development and so increase by many fold the volume of products available for American factories.

No trade agreement which can be made by any group of European countries can seriously injure the commercial future of the United States or of any other of the 21 republics of America as long as they all remain free and independent and the United States does its part in productive and commercial development.—W. C. W.

ADDRESS OF BOLIVIAN MINISTER AT THE LAKE MOHONK CONFERENCE

AMONG the distinguished speakers who delivered addresses at the recent Lake Mohonk Conference was Minister Ignacio Calderon, of Bolivia. The following paragraphs embody the salient features of the minister's timely and pertinent remarks:

I want to congratulate the members of this conference, and more especially our good hosts, for the abiding faith in the noble ideals of justice and peace in the presence of the European conflagration that is trying mankind's soul. One wonders whether those ideals are but dreams and empty words that vanish at the roar of big cannons and the most murderous weapons, scientifically perfected to spread death and misery. We have seen whole nations uprooted from their firesides and made homeless wanderers on the face of the earth; little children, defenseless women, cold and hungry, vainly looking for shelter and food in the midst of their burned homes; the ocean turned into a grave for innocent travelers; commerce stopped everywhere; merchandise and mails seized and confiscated, all pacific endeavors made subservient to the convenience and the interests of the belligerent nations regardless of the clear and indisputable rights of neutral peoples.

Can we think without horror of the millions of the best manhood of Europe mowed down into death, maimed, blinded, crazed at the sight of the mangled bodies, in the midst of ceaseless thundering of hundreds of cannons; can we grasp the stupendous waste of the accumulated wealth of the world being engulfed by billions and billions into the abyss of this criminal war that all condemn and for which nobody wishes to be responsible?

It seems incredible that such a conflict could be going on when all civilized nations prided themselves on having attained a high degree of Christian brotherhood, when man's genius has made, as it were, all nations near neighbors and extended the human voice to thousands of miles to express friendly greetings and messages of love to dear ones. If we want to understand the cause of the actual European tragedy, it may be possible to find some explanation by looking back into the early political organization and the development of the world's nations and take into account the influence of some psychological delusions that at times pervert the national ideas.

The numerous hordes of northern barbarians that invaded Europe at the fall of the great Roman Empire, not only destroyed the existing order of things and completely changed the basis of society, but gave origin to the feudal system that during many centuries brought upon Europe the darkest period of its history.

The people, tired of the exactions of the feudal lords, sought protection and security by siding with the kings and helped them to compel the submission of the plundering knights, but soon the kings claimed the divine right of power, made themselves absolute masters of the nations, and their will became the law. As the greedy monopolist of our day aims to crush and absorb the business of his competitors, the kings, always jealous of their rivals, made it their business to fight them. Wars were the normal condition of those times and desolation and ruin followed the wars for conquest, religious wars, and wars of succession waged by rival claimants to a vacant

throne. In all of them no account was taken of the rights or the welfare of the people. An imaginary entity called the State was conceived and every act of spoliation, all kinds of taxes and burdens imposed on the people, were justified for the good of the State. Nobody could say what or who the State was; but Louis the Fourteenth, in a fit of vain glory, defined it in a single phrase when he declared, "*L'Etat c'est Moi*"—"I am the State." Such is the general outline of the monarchical rule in Europe.

A system of international policy was invented known as the balance of power. It meant primarily the assumption on the part of the so-called great powers of the right to settle the questions of nationality or independence of weaker countries to suit themselves, as was the case, amongst other instances, upon the termination of the last Balkan War and Turko-Russian War. The resolutions taken generally disregarded the interests and the wishes of the people concerned, and left the field ready for future conflicts. The constant increase of armaments created, on the other hand, a tense suspicion of impending danger. One of the great countries molded its whole political structure into a national military camp. The army discipline and subordination permeated even the habits of family life. Teachers, university professors, and writers expounded the theory of national supremacy and its mission to dominate the world. This belief became a popular conviction and the nation was induced to support willingly the burden of a large military establishment.

Such was the situation of the countries of the Old World when an assassin's bullet started the powder magazine, followed soon after by that most appalling tragedy, whose speedy end is the earnest prayer of the whole world. When we turn our attention to our America, it is certainly with a feeling of hearty thankfulness we find here the spirit of Pan-Americanism taking every day deeper root in the public opinion of the Republics of this Hemisphere.

Although President Monroe made his brave declaration excluding forever from America the despotic and monarchical Governments of Europe, the door was left open to all good men wishing to come to find a free and happy home. The Monroe declaration will remain in force and will have the support of all the Republics, because America has been dedicated to democracy in many bloody battles and is the cherished inheritance left to our care by the heroes that fought and won our liberty and independence.

The English colonies had from the beginning marked advantages over the peoples of the southern continent. They grew and lived from their inception in the practice of self-government. The colonists that came here were men of high moral and political ideals; they came inspired by the spirit of religious liberty and freedom in the management of their affairs. The New World, in all the greatness and fertility of nature, offered them a suitable and inspiring field for the unobstructed development of their energy and labor. The aborigines they found were not numerous nor organized enough to offer a permanent resistance, and when the colonies had grown rich and strong, and felt the oppressive hand of an ill-advised king trying to submit them to unjust burdens, they protested and finally won their independence, fully prepared to enter into the exercise of their sovereignty and the obligations of citizenship in a free country. The growth and progress of the United States was marvelous. The world was given an object lesson of the wonderful, vitalizing influence and force of republican institutions, and a government based on the popular will, freedom, and equality.

If we pass now for a moment to the history of the Spanish colonies, how different the picture, how painful the contrast.

The Spanish conquistadores did not come seeking liberty; they thirsted for gold and plunder. Mexico and Peru were then well organized and populous countries and to subdue them no mercy was shown, and disregarding all humane considerations, brave and daring as the Spaniards were, they did not hesitate to butcher the Indians and submit them to the most abject slavery. Nothing was done to educate them, everything to keep them in submission.

Inspired by the writings of the French philosophers of the eighteenth century and the great upheaval of the French Revolution, and following the example of the United States, the Spanish colonies undertook to free themselves of their masters. For 15 years they fought the most bitter and bloody fights, until independence was achieved, but the habits of arbitrary rule remained. They entered into the life of independence unprepared for the difficult duties of freedom and self-government. No child learns to walk without many falls. Revolutions and disorders followed, and for many years the Latin Republics have been the butt of criticisms and scorn because of such revolutions. It was never considered that countries formed under the most adverse elements could not, unless by a miracle, reach the degree of stability that older nations have attained in many centuries.

The period of apprenticeship is passing, and peaceful, orderly governments rule in most of the Latin countries. They have entered a road of genuine progress and self-development.

The Pan American doctrine is the outcome of that development and of a better understanding between all the countries of the New World as to their future and welfare.

The Monroe doctrine expresses the theory of exclusion from this continent of European intruders; Pan Americanism means that community of aspirations, of ideals and interests of all the republics of America, without infringing on each other's sovereign rights, the cultivation of one grand, generous sentiment of good will, and cooperation in the noble task of working for mankind's welfare, for peace and progress. Pan Americanism means the strengthening and developing of our commercial relations under the basis of mutual confidence and advantage; the elimination of international wars through the spirit of righteousness and justice toward each other.

The troubles that have caused friction and endangered the good relations amongst our countries are often the result of acts of ignorant and irresponsible men. To help in the good work of elevating and bringing to a proper realization of their duties and rights the large mass of illiterate and downtrodden Indian population is to my mind such an important task of Pan American cooperation that I can not emphasize enough its urgency and the far-reaching benefits of that work.

If we stop to think that from Alaska to Cape Horn, notwithstanding the very marked differences of population, education, and progress, all the republics of this dear America of ours live in peace and harmony, linked for a common purpose, working together for the happiness of their people and the rest of mankind, we can not help but grasp the infinite moral power of such union.

The United States takes the lead in this campaign and is the first to acknowledge, far from proclaiming the doctrine of the supremacy of might, that right alone should prevail and has thrown all the influence of its great power in favor of peace, of justice, and freedom.

The cynics who affect to attribute to might and force the dominion of the world, forget that nothing that is not based on the power of love and right ever remains. History teaches us that the advance of civilization is due always to the inspirations of righteousness, without which the most heroic deeds of unselfish devotion to duty could never have been accomplished. The bravest man is one who never swerves from the path of duty. It takes greater force of character and courage to be ever ready to keep to the straight path than to act the bully.

Pan Americanism to grow and endure must become a living force and an inspiration in the hearts of every Pan American to adhere to and practice the fundamental principles upon which our democracies are founded. The purely commercial and material interests are never a solid and permanent basis of good understanding. We must let them expand as a result of the indestructible and broad development of our ideals of justice, of peace, and liberty, as the guiding lights of Pan American brotherhood.

PROMINENT IN PAN AMERICAN AFFAIRS.

THE Republic of Peru is mourning the loss of one of its most learned and distinguished sons, Sr. Dr. EUGENIO LARRABURE Y UNÁNUE, who died, at the age of 72, in Lima on May 12, 1916. Connected with the department of foreign affairs at various times, vice president of the nation, and some time diplomatic representative in South American capitals, the late Dr. Larrabure y Unánue was as widely known in official circles as he was in literary and scientific gatherings. An authentic historian and a painstaking investigator, he contributed many notable works on the civilization of the Incaic period, especially in its art and architectural development. He also brought to the study of the pre-Columbian epoch many important observations and discoveries. The finished literary style of his writings won for him membership in the Spanish Academy.

About 1870 he became active in political life and was associated with the editorial department of the paper called *La Republica*, but shortly after he was called to the editorship of the official paper of the Government. In 1878 he was appointed subsecretary of the department of foreign affairs, and from there he went to Madrid as secretary of the legation, and later as chargé d'affaires.

In 1883 Dr. Larrabure commenced the work which represents his most valuable contribution to the public service and which stands as a permanent expression of his ability as a statesman and diplomat, namely, the consideration of the boundary question with Chile and proposals for its solution. As secretary of foreign affairs under the administration of Gen. Iglesias he presented to the national assembly the famous treaty of Ancón. In 1892 he was again honored with appointment as head of the foreign office. At this time important boundary questions were again mooted, and not being able to terminate the negotiations satisfactorily he was so deeply touched that he withdrew from public life and quietly spent the next years in literary endeavors. In 1901, however, he was once more urged to assume the duties of minister of foreign affairs, and after this service he was appointed envoy extraordinary and minister plenipotentiary to Brazil. While at Rio he represented Peru at the Third Pan American Conference, where his marked learning and polished eloquence attracted attention.

Occupying a warm place in the hearts of his fellow countrymen he was elected to the vice presidency, and as occupant of this position he was designated ambassador to the centennial celebrations of Argentina in 1910.



EUGENIO LARRABURE Y UNANUE.



JOSE MANUEL PANDO.



ELIO A. LISONI.



IZRAM TAWLON.

Among the statesmen of South America enjoying notable reputations is Sr. DON JOSÉ MANUEL PANDO, of Bolivia. His brilliant achievements as a military leader and his statesmanlike and constructive administration as President of that country from 1899 to 1904 have made him one of the leading figures in the public life of Bolivia. In the field of science, as well as in official and military circles, Gen. Pando has performed splendid service. His explorations resulted in the determination of the course of many of the rivers in the great network of Bolivian waterways, and in the discovery of the mouth of the Tambo Pata where it empties into the Madre de Dios River. To him belongs the credit of having named the River Heath in recognition of the explorations made by Dr. E. R. Heath.

As President, Gen. Pando built the first railroad constructed with public funds and initiated the movement for the construction of a system of railways, a plan which is being enthusiastically followed to this day by the present administration. During his incumbency a number of treaties with neighboring countries were negotiated amicably adjusting border questions and boundary limits.

Sr. Pando was born in La Paz December 25, 1848. He was studying at the medical department of the university at the capital when his youthful patriotism was fired by the stirring internal events and he left the clinic and laboratory to aid in the upbuilding of the new government. As a military leader he covered himself with glory, and upon his return to civil life, he was elected senator from the Department of La Paz. From then on he has been active in official life, and has traveled a great deal in Europe and in South America. He served at the head of the Bolivian commission for the fixing of the boundary limit with Brazil with residence at the Brazilian capital. During this time he visited in Argentina and Peru, in which countries he acquired a reputation as a diplomat and military officer. At one time the Government of Bolivia indicated its desire to name him minister to Brazil, but Sr. Pando expressed his preference to serve on the boundary commission.

Sr. Pando is a member of various scientific societies, is general of the Bolivian Army, and enjoys the distinction of holding the commission of general in the Peruvian Army by vote of the Peruvian Congress in 1913.

Sr. DON TITO V. LISONI, consul general of Venezuela and of Guatemala in Chile, ranks with the distinguished officials of those countries who are working for a closer intimacy between the American Republics. For nearly a decade and a half Sr. Lisoni has devoted his efforts personally and through the platform and press to develop a more general appreciation of Venezuela, the countries of Central America and the West Indies. He has delivered interesting lectures before the

Atheneum of Santiago, and the Scientific Society of Chile, his themes frequently being Pan-American in spirit and content. Among the subjects discussed by him may be mentioned, the Central American Union; the Bolivian Congress of Caracas of 1911; Guatemala under the administration of Estrada Cabrera; the West Indies and the Panama Canal; and conflicts in nationality, citizenship, and naturalization in Latin America.

Sr. Lisoni has written a number of descriptive articles on Venezuela and on the Dominican Republic, some of which have appeared in the South American International Book, and in Poirier's Chile In 1910. He has also published considerable propaganda material on Guatemala and Chile, the latter Government conferring upon him the Order of Merit in recognition of his work. He also enjoys the distinction of being dean of the consular corps at Santiago and is recognized as an authority on international law.

Among his varied activities in Pan-American affairs mention should be made of his service as delegate to the First Pan-American Scientific Congress in 1908, at which he represented Venezuela, Guatemala, and the Dominican Republic; delegate of the Dominican Republic and vice president of the Fifth International Sanitary Conference of the American Republics in 1911; delegate at large of the Cuban Red Cross in Chile; advocate of the Chilean tribunals; corresponding member of the Academy of History of Colombia and Venezuela; and associate member of other scientific, literary, and learned bodies in Central and South America, and Europe. The decorations conferred upon Sr. Lisoni include the Order of Bolivar from Venezuela; the Grand Cross of the Cuban Order of Honor and Merit of the Red Cross; the Order of Merit from Chile, and similar distinctions from Italy, France, Spain, and Bolivia.

EZRA M. LAWTON, the United States consul at Tegucigalpa, Honduras, was born in Ironton, Ohio, August 23, 1864, and received a public and high school education. Commencing a business career early in life, he became interested in electrical engineering and for a number of years was active in this line of work. Branching off from engineering and contracting work, Mr. Lawton engaged in extensive mining and quarry enterprises at Oaxaca, Mexico. While in Oaxaca he served as United States consular agent. Retiring from this position, he presented himself for formal examination to the consular service, and on December 22, 1913, received a commission as consul in the capital of Honduras. Mr. Lawton was recently on leave of absence and made a tour through certain sections of the United States, meeting representative business men and organizations and discussing the possibility of trade expansion in his consular district.

TRADE OF ARGENTINA: THREE MONTHS, 1916

THE outbreak of the European war, August 1, 1914, caused an almost complete paralysis in the South American foreign trade. The recovery from this condition has been slow, but nevertheless certain. In exports the recovery was most rapid. The value of these from Argentina for the first three months of 1915, a period beginning five months after the commencement of the war, showed an increase over the like period antedating the war. The imports, however, did not so readily respond to the bettering conditions. The value of these for the first three months of 1915, nearly 50,000,000 pesos gold (peso = 97 cents U. S. gold), was about one-half or less than one-half of the normal. For the corresponding period of 1916 there has been a recovery, but the figure remains yet not much more than half of the normal.

The trade with the United States has shown a wonderful development. For the first three months of 1915 the imports from the United States were about 7,500,000 pesos. This represented a gain in proportion, but only a slight one on the part of the United States. On the contrary, for the first three months of 1916 the imports from the United States were nearly 14,500,000 pesos, more than one-third of the total Argentina imports. This represented a remarkable gain in proportion for the United States. For example, for the first three months of 1913 the imports from the United Kingdom were over 32,000,000 pesos, from Germany over 21,000,000, and from the United States 14,990,000 pesos. For the corresponding period of 1916 the imports from the United Kingdom were 14,910,000 pesos, from the United States 14,491,000 pesos, and from Germany only 146,000 pesos. The percentage of the United Kingdom in 1913 of the whole trade was 30.2 and of the United States 13.8. In 1916 the percentage of the United Kingdom was 28.4 and of the United States 27.6.

The increase in exports to the United States was even more remarkable than the increase in imports, advancing for the period from 5,760,000 pesos in 1913 to 13,800,000 pesos in 1914, 25,132,000 pesos in 1915, and nearly 30,000,000 pesos in 1916.

The following tables show the total trade of Argentina during the first three months of 1916 compared with the corresponding period in 1913, 1914, and 1915, and the share of the United States in this trade during these periods:

Foreign trade of Argentina.

First 3 months.	Imports.	Exports.	Total.
	<i>Pesos gold.</i>	<i>Pesos gold.</i>	<i>Pesos gold.</i>
1913.....	108,652,009	154,891,362	263,546,371
1914.....	95,152,179	121,949,116	217,101,295
1915.....	49,297,625	166,748,965	216,046,590
1916.....	52,191,534	127,142,050	179,333,584

Trade of Argentina with the United States.

First 3 months				First 3 months.			
1913	1914	Increase (+) or decrease (-) in 1914 compared with 1913.	1915	1916	Increase (+) or decrease (-) in 1916 compared with 1915.		
	<i>Pesos gold.</i>	<i>Pesos gold.</i>	<i>Pesos gold.</i>	<i>Pesos g. ld.</i>	<i>Pesos gold.</i>	<i>Pesos gold.</i>	
Imports from United States...	14,996,096	11,853,756	-3,142,340	7,596,189	14,191,389	+6,595,200	
Exports to United States.....	5,760,851	13,824,275	+8,063,424	25,132,319	29,782,301	+4,595,982	

PAN AMERICA IN THE MAGAZINES.

Impressions of Bahia is the title of the leading article in the May number of the Pan American Magazine (New York). The entire number of the publication is practically given over to descriptive, historical, and commercial articles dealing with the prosperous and flourishing State of Bahia and its charming capital, including incidentally the 1915 message of Dr. José Joaquim Seabra, the governor of the State, to the general legislative assembly. The leading article, in its general survey of the commercial situation, gives the following gratifying account of the prosperous condition of the State and city:

Bahia, in the early months of 1916, is undoubtedly feeling the happy results of a period of prosperity which has lasted considerably more than a year. The general atmosphere of stability is more marked than it was when the writer was in Bahia in early 1915, because at that time, although exporters of certain commodities such as cacao were well satisfied with high prices—sometimes three times those of normal times—yet commerce as a whole was rather feverish, fluctuating, and no one knew what pitfalls the next weeks might display.

The check in imports, the fall of exchange and rise of prices in many foodstuffs and other staples, has made the lot of the dweller in Brazil, whether native or foreigner, a trying one ever since the outbreak of war in Europe. It has needed a steady call for Brazilian exports in order to restore any feeling of confidence. This call, however,



Courtesy of the Pan American Magazine.

NEW STATE GOVERNMENT PALACE, UPPER TOWN, BAHIA, BRAZIL.



INAUGURATION OF THE NEW AVENIDA 7 DE SETEMBRO, UPPER TOWN, BAHIA.

has been maintained in all parts of the Republic: every article of export was sold abroad during 1915, and at the moment of writing (April, 1916) is still being sold, with better profits than in the pre-war year; there is no prospect as yet of any cessation of demand or fall in prices to the old level. * * *

Bahia's chief crop and chief source of revenue is cacao. There is some fortunate combination of soil and climatic conditions in two or three belts in the south of the State which is admirably suited to the cultivation of this tree, a native of some parts of tropical America if not of Bahia.

There is always a big world demand for chocolate, and cultivation in Bahia has been increasing for some years, but it was pure good fortune that brought a bumper crop into the hands of Bahiano exporters at the very time when very great quantities were being urgently called for abroad at prices almost unprecedented.

Nor has cacao been the only (although it is the main) product of the State of Bahia which has been sold during the last 12 months in world markets at prices above the normal. The official value of exports during 1915 amounted to nearly 87,000 contos of reis, as compared with under 53,000 contos, the value in 1914. * * *

The conto has been worth about £50, or say \$250 United States, as a fair average last year. Thus the gain in value of Bahia's exports during 1915, amounting to about 33,000 contos, is equal to something like \$8,000,000. Before the war the conto was worth \$320 United States currency. This added sum has benefited producers, merchants, and shippers, together with the great army of laborers and clerical workers attached to industry and commerce, and has also yielded immediate large revenues to the State.

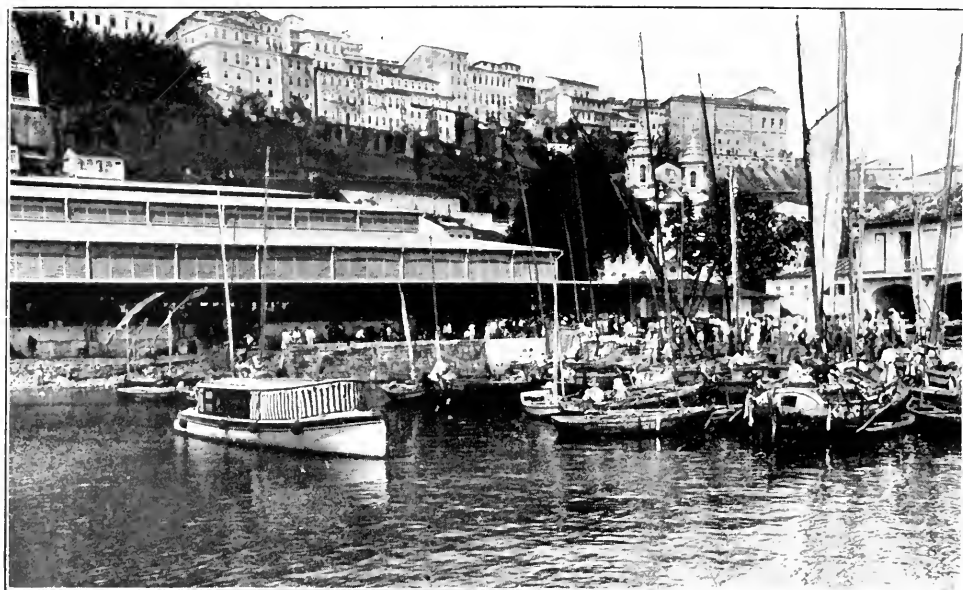
Another article, under the title of "The business of Bahia," goes into more or less detail about the geographical features of the State and city, the advantageous location of the port, products exported, and the cacao and cotton industries of the section. Some of the interesting facts stated are reproduced in the following paragraphs:

The State of Bahia is one of the largest, one of the oldest in foundation, and one of the most naturally favored in Brazil. The area covers 126,127 square kilometers, or nearly 165,000 square miles, is excellently watered on the coastal flats by a series of short rivers running into the Atlantic and in the interior by the great San Francisco, which follows so adventurous a course through a series of States with its numerous tributaries.

Wedged in under the greatest part of the shoulder of the northeastern promontory of Brazil, the buttress forming the States of Sergipe, Alagoas, Pernambuco, Paraíba, Rio Grande do Norte, and Ceará is a warm and rich territory which appealed to the first comers to the east coast of South America 100 years ago. The fertile coastal belt, which farther south at Rio de Janeiro is so narrow that not a field is in sight from the sea, is in these more northerly latitudes greatly widened. The *Serra do Mar*, that valiant backbone of Brazil, loses its height north of Espírito Santo, and only low hills break the broad belt of sunny lands that skirt the sea at Bahia and beyond it.

The capital of the State, the city which is officially named São Salvador, but which is commonly known as Bahia, is situated on a peninsula point formed by the deep curve of the bay—the Bahia de Todos os Santos—into which the waters of the Parnaíba and Jacuípe Rivers are poured. Built at the foot and also on the top of a hill looking straight out to sea, Bahia is a city of cool breezes despite its warm climate. The lower town contains the business houses, banks, markets, and industrial concerns, while the upper town is the residential section of Bahia, spread out along the top of the ridge.

As a port Bahia is situated favorably for development. The harbor is spacious, and the docks recently completed offer all modern conveniences for the commerce.



Courtesy of The Pan American Magazine.

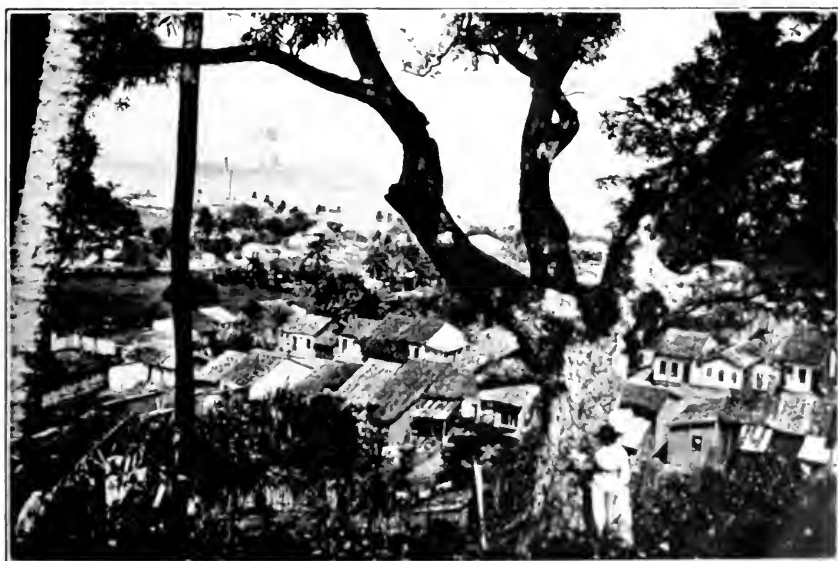
SCENES IN BAHIA, BRAZIL.

Upper: The city market on the water front. Lower: The new docks, partially completed, upon which work is being continued in connection with other harbor improvements.



Courtesy of Sr. João Pedrozo, Bahia.

STREET VIEW IN THE UPPER TOWN, BAHIA



Courtesy of Sr. João Pedrozo, Bahia.

VIEW OF ONE OF THE SUBURBS OF BAHIA

discharging of visiting vessels, while the interior of the State is penetrated by railway and rivers along whose lines are carried the agricultural produce that is the predominant source of wealth of Bahia. The mineral resources, including gold and fine diamonds, do not figure largely as yet as contributors to export lists.

Looking up and down the coast for rival ports to Bahia, you find that there is a clean sweep of 740 miles south to Rio de Janeiro and 400 miles north to Pernambuco before any other stopping point of first-class importance for vessels is encountered. It is true that along this thousand-mile coastal strip there are several ports which tap rich territory, * * * any or all of which may attain international rank in the future; but at present Bahia reigns as a port over a litoral of nearly 1,200 miles.

The bay is therefore the gateway of an enormous territory, drawing her exports of tobacco, cacao, sugar, hides, coffee, and a dozen other lesser items from huge and widely separated areas. Among her goods shipped abroad are to be found two kinds of rubber from the interior forests; ivory nuts; rare resins and gums; cattle hides, goat and sheep skins; the valuable carnauba wax, called for by the United States as the base of certain varnishes; medicinal products, such as ipecacuanha and guarana; paina cotton (kapok); fibers for broom making, such as piassava; hardwoods; plumes of birds; whale fins and whale oil, the last-mentioned items appearing only recently on the export list, etc. * * *

Cultivation of cacao in Brazil must be of very old establishment in the State of Bahia, for as far back as 1834 there are records of exports of the bean from which cocoa and chocolate are made. In that year, declares the author, J. R. de Souza, writing in 1852, the export was of 447 sacks of 60 kilos each; in 1840 the amount sent abroad had risen to 1,852 sacks, and in 1850 the figure was 5,065 sacks. This is a modest amount compared with the 750,000 sacks to which the most recent Bahian export will probably attain when the numbers for the last two months of the cocoa year are added.

The cocoa year runs from May 1 to April 30. Gathering practically goes on all through the 12 months, although the safra proper, the great harvest, begins in September and continues through succeeding months until April; in May begins the summer gathering, the temperão, with a less important yield. * * *

The year 1915-16 has been the record cocoa season; the first 10 months witnessed the receipt in Bahia of 702,000 bags, and it was the calculation of the British firm of Stevenson, to which the writer is indebted for the estimate of 750,000 sacks for the total harvest. The record month was that of August, 1915, when 108,580 bags entered Bahia city from all districts. As the normal crop is calculated at about 500,000 bags, it is clear that cocoa growers and shippers have cause for mutual congratulation when we add the fact that very high prices reigned for a great part of 1915.

In regard to the cotton situation the following statements are made:

Certain varieties of cotton are indigenous to the north coast of Brazil as to many parts of the Americas. One hardy little tree variety, attaining a height of anything from 4 to 8 feet, yields a good fiber with long staple and is utilized for Brazilian looms; the writer heard of plantations of this tree cotton, but was unable to see them personally.

For plantation purposes it is the rule to use an annual variety, and with scientific attention to selection of seeds best suited to different localities and of a sound stock producing the finest marketable fiber, the cotton production of north Brazil could be enormously developed. Probably the whole of Brazil from Amazonas down to Parana could be made to yield cotton, but the northern and central sections are those best adapted by soil and climate to great production of a satisfactory commercial kind.

During the last few years both the Government of Brazil and certain private companies have brought in the help of cotton experts with a view to improving the cultivation of cotton; results have been so good, wherever a scientific method has been employed under this advice, that it is permissible to look forward to a big increase



Courtesy of The Pan American Magazine.

POINTS OF INTEREST IN BAHIA, BRAZIL.

Upper: Left, the lighthouse; right, the general post office, in the lower town. Lower: Left, one of the vertical elevators; right, the "plano inclinado."

in Brazilian cotton production. * * * Bahia is, as far as soil and climate are concerned, a fine cotton country in many wide areas. Its cultivation has, however, been overshadowed by the greater rewards offered by other products and only a small fraction of the available land is under this staple. As a result the cotton factories of Bahia are actually importers of raw cotton and yarns.

Cotton factories in Bahia State are 13 in number, operating with a capital of about 16,000 contos of reis. They employ nearly 6,000 workers and their annual production is valued at 14,300 contos.

Peru: Its products and possibilities is the title of an interesting sketch in the June number of *The Americas* (New York), contributed by J. C. Luitweiler, of the staff of the American International Corporation. In his introductory paragraphs the writer explains the absence of rainfall in the 2,000-mile coast strip, which includes portions of Peru and Chile, where the Humboldt Current in the Pacific on the one side and the high wall of the Andes on the other wring the moisture from the atmosphere before the winds can sweep it over this belt of otherwise fertile land. Peru's wealth, according to Mr. Luitweiler, is now confined chiefly to her agricultural products, her minerals, her wool, and cattle hides. Of the agricultural products, sugar is now king, although in normal times cotton is a close rival, while rice, coffee, cocoa leaves, and fruits have some importance.

Of the minerals, copper overtops everything else. The wool exported is the wool of the alpaca, sheep, and llamas raised on the plateau. As an example of successful copper mining he cites the Cerro de Pasco Mining Co., a large American enterprise which is at work on the high plateau at an altitude of 14,000 feet, and which is accomplishing marvels in that industry. "It has meant," he writes, "the investment of millions of dollars of capital, the building of railroads, the opening of coal fields, and the development of the copper mines on a gigantic scale, to say nothing of waiting 15 long years for any returns. But now this concern is producing 75 per cent of the copper exported, and, aided by the present unparalleled prices of this metal, is entering upon a stage of well-merited prosperity. Peru's annual production of copper is now over \$10,000,000."

In regard to the country's agricultural resources he writes:

Outside of its minerals, the cane-sugar industry of Peru has been the basis of much of the country's wealth, and has been the chief hope of forward-looking Peruvians. For Peru's sugar land surpasses all other sugar-producing countries, except Hawaii, in the acreage yield of sugar * * *.

There are about 90 sugar estates in Peru, approximately 500,000 acres in extent, but of this acreage only 100,000 acres are now in cane, owing to lack of water. All these lands are irrigated, and consequently are not dependent upon rainfall at all, as in Cuba. In capable hands the crop is a certainty. The usual period of growth is 18 months, but on the up-to-date plantations, by cultivating and fertilizing, the cane is being brought to its maximum growth in 13 or 14 months. The average cost of production is about \$2 per quintal of 112 pounds, so that even at the low price of sugar just before the war of \$2.50 per quintal Peruvian planters were making money.



Courtesy of The Americans (New York).

SERVING PERUVIAN AGRICULTURE.

Upper: Irrigation turns the arid sections into fertile fields. Lower: Modern railways carry the cane to the sugar mills.

It can readily be imagined, then, what happened when sugar went up to double this price immediately following the outbreak of war. Even at its present price it means that Peruvian planters are enjoying a veritable bonanza.

Of course, it must not be overlooked that lack of shipping facilities is a great handicap just at present. It is doubtful whether any other section of the globe is suffering more through lack of cargo space than this west coast. Never very adequately served, the temporary closing of the Panama Canal, combined with the embargo by the British Government of a considerable number of steamers accustomed to ply on this coast, cut down freight space to an almost negligible quantity, and freights for Europe have increased about 400 per cent. Only the very high prices prevailing in Europe make them possible of payment.

Last May, the writer states, he had an exceptional opportunity of visiting one of the principal sugar valleys, about 50 miles inland from the port of Eten, where are the three fairly large estates of Pomalca, Patapo, and Tuman. Of the Tuman plantation, the property of President Pardo and his family, comprising about 15,600 acres, including pasture and uncultivated as well as the cultivated area, and whose annual production amounts to 15,000 tons, he writes:

The people in charge of the plantation were of an old, aristocratic Peruvian family, which is true of most of the large plantation owners in Peru. Here the old Spanish aristocracy, proud of its lineage, cultured, and often educated in the best schools of Europe, gives to the plantations an atmosphere no doubt similar to that of our own South in plantation days. They are noted for their hospitality and their fine manners, and it is good for a North American to see here Latin American civilization at its best. We were entertained in a beautiful, large plantation house. Nearby were the plantation's church, and its market, and scattered about the houses of the laborers, a little village in itself of several thousand souls.

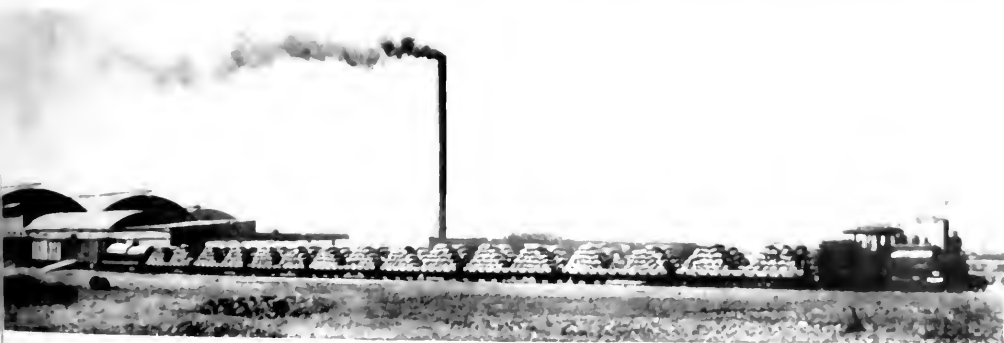
In regard to the cotton industry the writer sums up the situation as follows:

Cotton has not shared the same luck as sugar has enjoyed as a result of the war. As in our own country, cotton producers were for a long time shut off entirely from their market. Moreover, when the markets were reopened prices ran but little above those of normal times, and with the excessive freights offsetting them, the cotton grower, at present, is under a great disadvantage. In fact, the scarcity of cargo space and the high freight rates have the growers wondering whether they will be able to market the crop.

As to the oil fields and the famous guano islands Mr. Luitweiler writes:

There is only space for a word about Peruvian oil. The country's oil fields are extensive and valuable. They produce oil of the highest grade—so fine, in fact, that it has proven good business to ship the Peruvian oil all the way to our own west coast for refining and to bring down in its stead for consumption in Peru and Chile the poorer grade oil of the California fields. The Peruvian fields are in the northern part of the country, just below the boundary of Ecuador. The Standard Oil Co. now has very large holdings in this field and is developing them rapidly. An independent Italian company also has oil holdings in this region, producing considerable quantities annually.

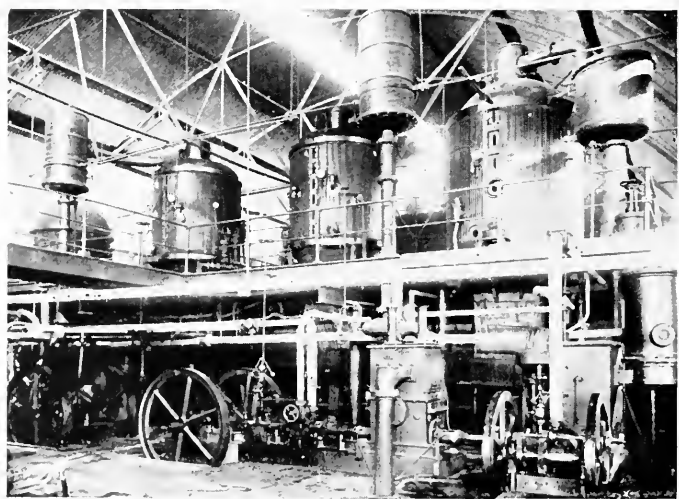
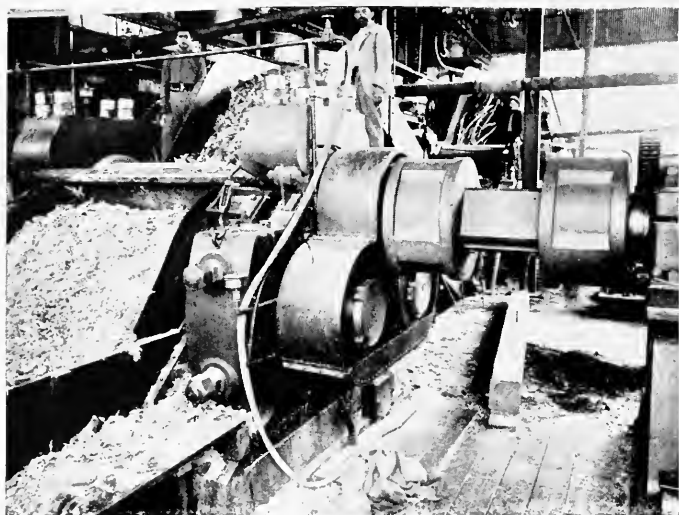
One of the interesting sights to the traveler along this coast is the famous guano islands, passed just before reaching Callao. For over 80 years they have been exploited, and tradition tells us that even the Inca sovereigns knew their value and protected the guano birds. As we passed close by the captain of the steamer blew



Courtesy of The Americas (New York)

SCENES ON SUGAR PLANTATIONS IN PERU.

Top: Loading the cane on cars for transportation to the sugar mill. Center: Primitive and modern power used on Peruvian sugar plantations. Bottom: The sacked sugar being transported over the arid section to the coast.



Courtesy of The Americas (New York).

MODERN MACHINERY IN PERUVIAN SUGAR MILLS.

the whistle, and what seemed to be great black patches all over the island turned out to be flocks of millions of birds, rising like a swarm of bees, and circling over and around their tiny domain. Although largely worked out, still there was about \$750,000 worth of guano shipped in both 1912 and 1913.

As to the necessity for the further development of irrigation systems and the dependence thereon of the country's agricultural prosperity, the writer states:

It need hardly be said, in speaking of the possibilities of the country, that Peru's chief problem is irrigation. It possesses along this vast coast line some of the most potentially fertile land in the world, as proven by that already in cultivation, but water must be obtained to make it productive. The Government has been working on this problem many years, and a number of competent foreign engineers have been engaged to make studies of proposed irrigation systems. A point has been finally reached where the Peruvian Government had given a concession to an American company for a \$10,000,000 irrigation and colonization project, but this enterprise, it seems, has fallen through. Provided that such a project can be carried through economically, it means that every available acre brought under irrigation will add to the wealth of Peru, for its productiveness is undeniable, and sugar and cotton planters are only too anxious to enlarge their acreage. * * *

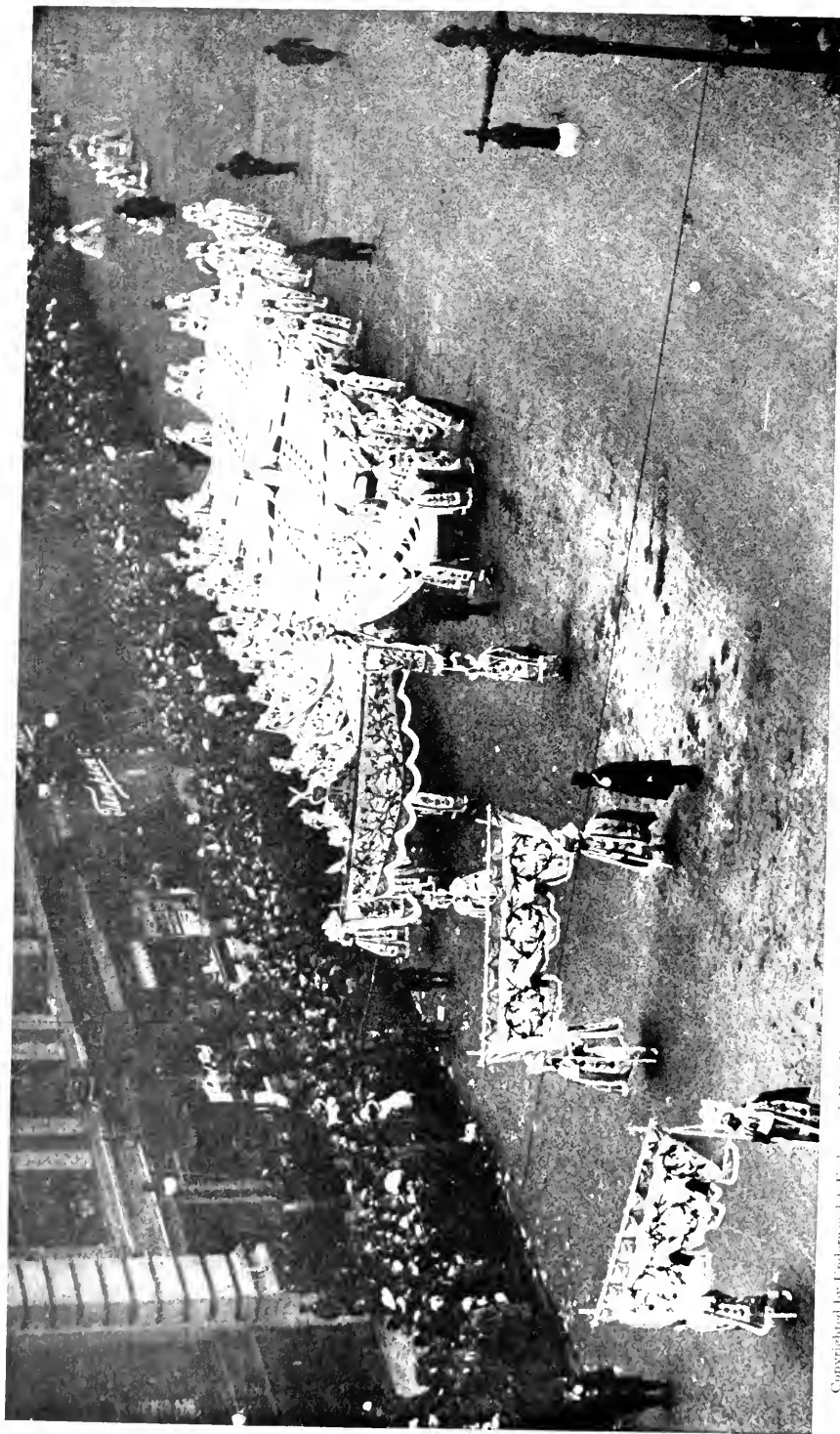
Outside of these, the other, and perhaps the greatest, possibilities of the country lie in the opening and developing of new, large mine fields on a scale comparable with the oil fields in the north or the copper mines of the Cerro de Pasco Co. Such enterprises, however, are for very large capital, for they usually mean the building of new railroads, heavy investments with a long wait for returns, and the assuming of the great risks that go along with mining enterprises anywhere else in the world.

Los Espectáculos Alegóricos Modernos como Factores de Educación (Modern Allegorical Spectacles as Educational Factors) is the title of an article in the July number of the Spanish edition of the *BULLETIN*, contributed by Mrs. Mary S. Ferguson, which deals with the present revival of pageantry and allegorical spectacles in connection with civic celebrations as well as educational activities among the colleges and higher educational institutions. The following is the English version of the article in part:

The twentieth century has seen in England and the United States a revival of the ancient and medieval use of spectacular allegories as a medium of instruction and inspiration. The revival, which is in some sense a new departure, originated with Mr. Louis N. Parker, of England, who, in 1907, presented at Sherborne a very remarkable semidramatic spectacle in celebration of an historical epoch. Other towns and localities in England have since had similar celebrations under his direction, in which whole communities have united to honor a hero, to commemorate historical events, or to give form and expression to community spirit for any other similar purpose, in the most stately and gorgeous manner possible.

Such spectacles have points in common with the feasts and festivals of ancient Rome, but there are at least three modern characteristics on which the author of the revival lays great emphasis.

First. That the community celebrating shall be a civic or political entity only. The spectacle which makes its appeal to a limited por-



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PHILADELPHIA ANNUAL MUMMERS' PARADE.

Several of the large cities of the United States have organizations which have adopted the custom of having an annual pageant to celebrate certain events. In Philadelphia the organization known as The Mummers celebrate the advent of the New Year by staging an elaborate parade as one of the features of a carnival of pomp, mimicry, and fun. The above picture gives an idea of the gorgeous costumes and original designs formed by the marching units.



Courtesy of The American Review of Reviews.

SYMBOLIC SCENE IN THE INTRODUCTION TO THE INDIANA UNIVERSITY'S PAGEANT.

The centenary of the admission of the State of Indiana to the Union was celebrated on the campus of the university at Bloomington by the presentation of a pageant, in the nature of an historical and political spectacle. It consisted of 13 episodes depicting the growth of the community and of the educational system of the State from the earliest settlement to the present. All scenes, costumes, dialogues, and characters, with the exception of those designed for symbolic effect, were purely historical as it was possible to make them. The above scene depicts the trials of Hope and Determination, welcoming the pioneers, who are coming through the wood, in the distance.



Courtesy of The American Review of Reviews.

SCENE IN THE INTRODUCTION TO THE INDIANA UNIVERSITY'S PAGEANT.

In this scene the early pioneers, the bold, hardy first settlers, are shown in the foreground, nearly true to life as possible. clad in the strong, rough, coming with their oxen and primitive cart, through the wood. Hope and Determination, symbolic of the spirit which led them against the hardships and dangers of their new environment.

tion of a community only, or to one set of interests in a community only, does not come within the meaning of the modern allegorical spectacle of the Parker type.

Second. Behind the show and display there must be dramatic scheme. Processions, even though very magnificent, or open-air theatrical exhibitions of the most ambitious kind do not alone constitute the class of festival celebration under consideration.

Third. The plot for the drama must be drawn from the history and inheritance of the community or locality celebrating. Symbolism may be used, but it waits upon and is subordinate to history. In a word, Mr. Parker allegorizes history and makes the spectacle to which his name has been given an historical community drama. It is called "the Parkerian pageant."

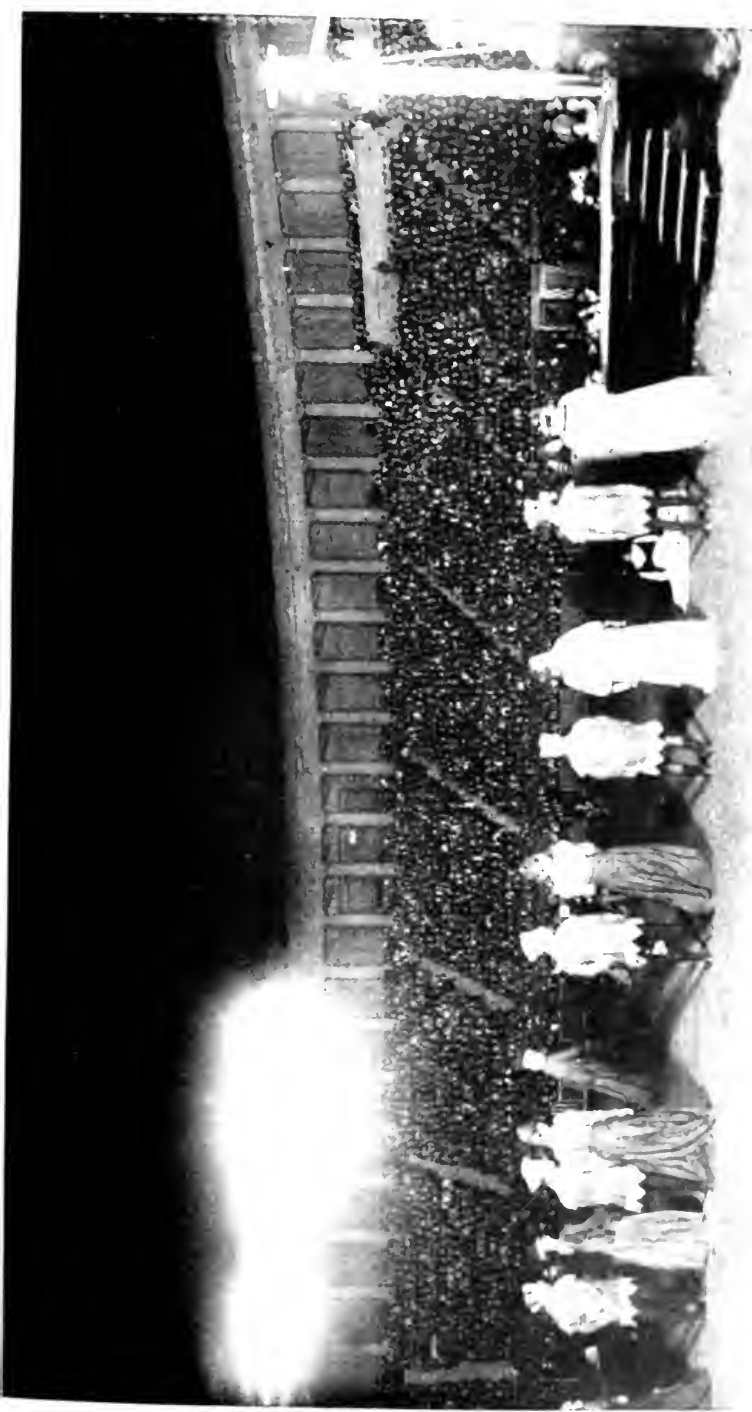
The purpose underlying such presentations is not primarily gain or mere entertainment. It is the deeper and more earnest one of enriching the life of a community by bringing its members together for a common purpose. The appeal is to civic spirit, local patriotism, and to man's elemental love for and pride in his home and heritage.

Ordinarily the dramatic spectacles of Mr. Parker's creation have formed a part of a festival of thanksgiving which begins and ends with commemorative religious exercises. Thus does he correlate the festival of the Greeks and Romans, who honored their deities with great symbolic and allegorical representations of a religious nature, while at the same time they feasted and made merry in sport and dance, with the community drama of to-day.

In the more complex life of modern times it necessarily follows that the community drama makes its strongest appeal to small towns and villages or rural communities where it is possible to bring together all the interests of the community and to so unify them, under the right leader, that each individual feels himself to be of importance in the general plan and life of the community. The interest of one becomes the interest of all, and vice versa.

In the development of the new art a new office has been created, called the "master of pageant." Generally the master is the author of the drama. His influence is practically unlimited and the success of the allegory in any given instance depends to a very large extent on his personality and methods of work. It is his part to bring out in every way the best the community can produce. He generally selects the episodes and incidents in history which will best serve the purpose of the allegory, writes the drama, stages it, assigns the parts to the actors, and personally interests and inspires them to the extent of their gifts and ability. The music and dancing, which are always important features in all such spectacles, may be in other hands than those of the "master," but his supervision extends to them also.

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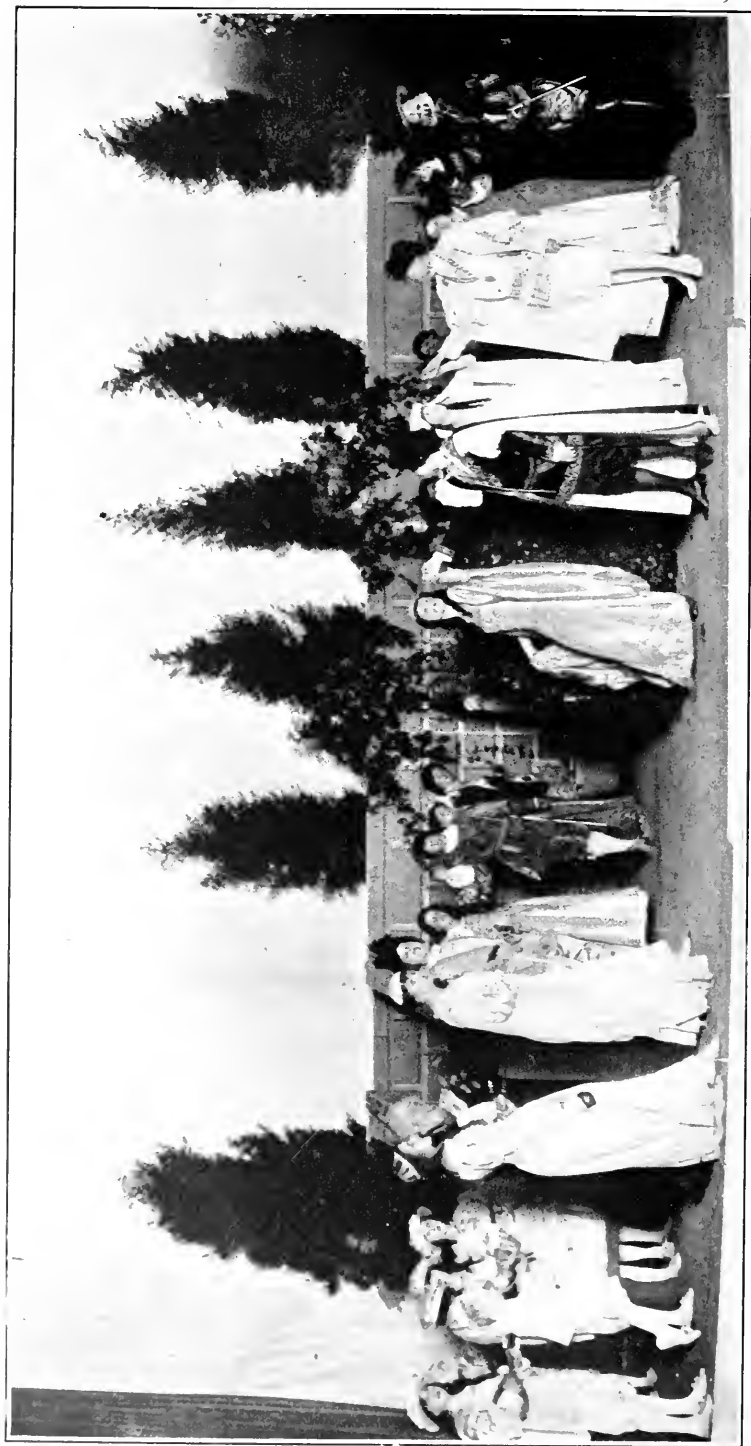
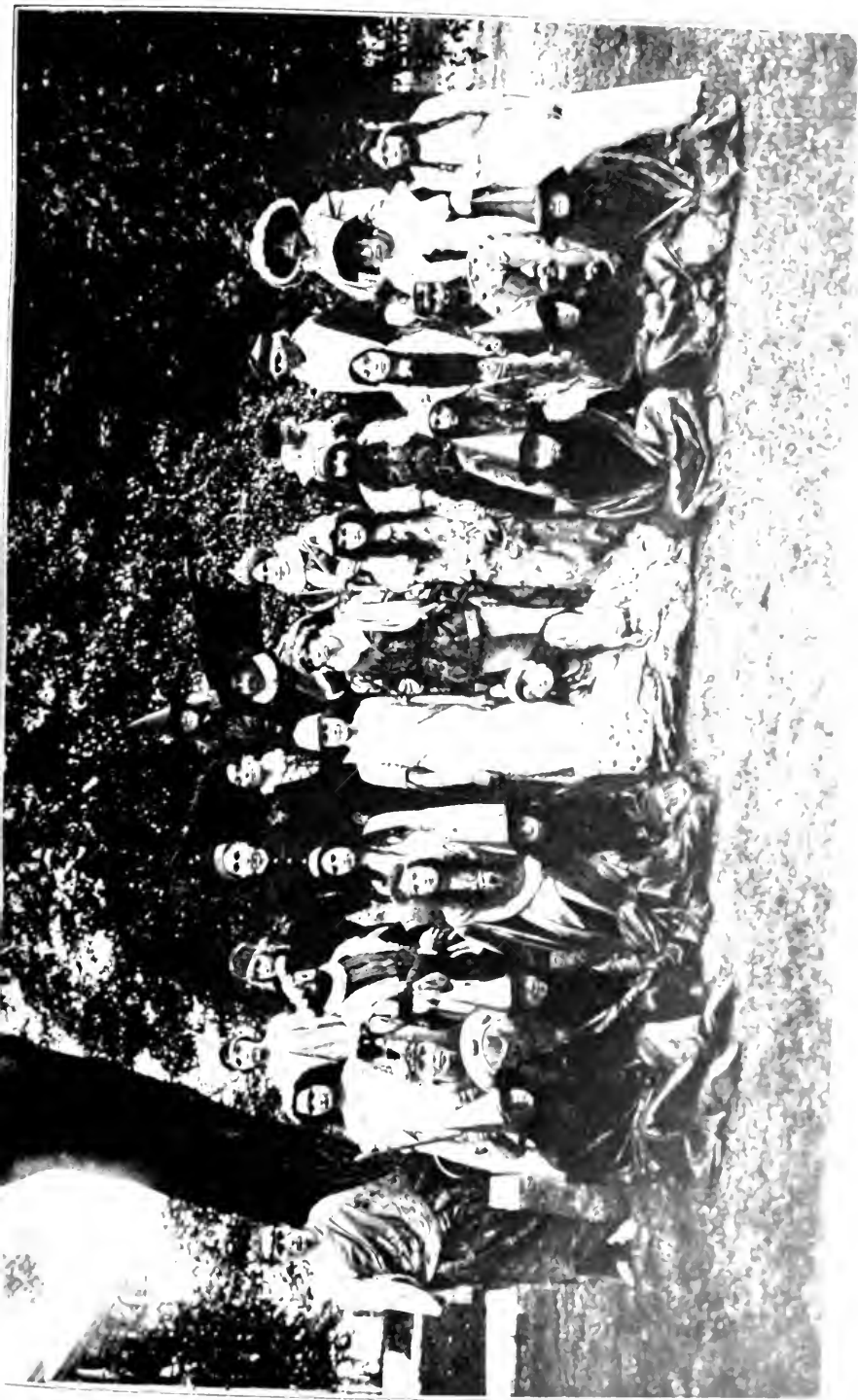


Photo by Katherine E. McClellan, Official Photographer to Smith College.

SENIOR CLASS AT SMITH COLLEGE PRESENTS "MUCH ADO ABOUT NOTHING."

At Smith College for Women, Northampton, Massachusetts, the senior class annually presents a Shakespearean play, elaborately staged and correctly costumed. This year the play selected was Much Ado About Nothing. The above picture shows the stage setting and a group of the actors in one of the scenes.



In the United States Mr. Parker has a large following in his conception and use of the allegorical spectacle. Notable among such masters and leaders is Mr. William C. Langdon, first president of the American Pageant Association, author of several allegorical spectacles, and specialist on the subject for the division of recreation of the Russell Sage Foundation.

The State of Indiana, which celebrates its centennial in October of this year, engaged Mr. Langdon as master for an allegorical spectacle which was given at the State University at Bloomington in June and for a similar State celebration to be held at Indianapolis in October. That Mr. Langdon was at work on these spectacles for Indiana as early as January of this year is an indication of the time, study, and preparatory work involved in their preparation.

In the hands of Mr. Percy MacKaye and his school the allegorical spectacle makes its primary appeal, not to civic spirit or local patriotism, but to another and entirely different set of emotions. Its whole purpose is different from that of the community drama, and the rules governing its structure and technique vary accordingly. "It satisfies," says Mr. MacKaye, "an elemental instinct for art, a popular demand for poetry. It is poetry for the masses."

With this conception of the art, it follows that he makes no hard and fast rules about using local talent either for musical composition, for acting, or for any other purpose. Where it is deemed necessary and advantageous it is called into use, but Mr. MacKaye's idea is to offer to the people the best available, whether it be the product of imported or local talent or both combined. So far, too, from confining himself to historical themes, he says: "All vital modern forces might appropriately find symbolical expression in majestic histrionic spectacles (masques), educative and entertaining to all the people."

In the case of his own dramatic spectacle of very great beauty and delicacy of conception, "The Canterbury Pilgrims," he brings with wonderful realism the England of Chaucer's time in song and pantomime, in procession and dance, right before the people of this day. It was presented in the summer of 1909 at the Universities of Yale and Harvard and at the town of Gloucester, Mass., by the Coburn Shakespearian Players, who came from outside and were paid for the purpose of presenting the play. The music, too, was composed and arranged by Mr. Walter Damrosch, of New York, whose assistant acted as director of the orchestra.

Mr. MacKaye also wrote the ambitiously conceived histrionic spectacle, "Caliban by the Yellow Sands," for the celebration of the tercentenary of William Shakespeare. Ten singing societies joined forces to furnish 500 or more voices for the choral parts of the music. Costumes and scenery were specially prepared, and the whole great





Photo by Harris & Ewing, Washington, D. C.

ONE OF THE SCENES OF THE MASQUE "SHAKESPEARE TRIUMPHANT."

The Shakespeare tercentenary was celebrated in Washington by the public performance of a masque entitled "Shakespeare Triumphant." Beautiful scenes taken from four of the immortal poet's most famous works were presented in a dramatic spectacle, the performance taking place in the picturesque little grove at the foot of the hill on which stands the great Washington Monument. The slope of the hill formed a natural amphitheater from which the crowd of interested spectators could view the realistic reproductions of the poet's most fanciful creations. The above picture presents the Dance of the Fairies from *Midsummer Night's Dream*.



Photo by Bachrach, New York.

DANCE SCENE FROM AN ALLEGORICAL SPECTACLE.

The revival of the allegorical spectacle seems to have been favorably received in many of the educational institutions of the country. It often takes the form of reproducing the classical dramas of ancient Greece and Rome, thus involving a close study of the manners, customs, and lives, as well as the costumes of the ancients. In the picture above may be seen a group of young ladies performing one of the Greek dances in the reproduction of one of these plays.

city paid homage to the memory of the greatest of English dramatists by and through this spectacular allegory.

Mr. MacKaye, in writing of the art on one occasion, cites the annual dramatic spectacles given with unexampled artistic effect in the great redwood forests of California by the Bohemian Club of San Francisco as examples of the modern spectacular allegory, which possess, he says, "all the elements for making a constructive art, because they are the expression of a community spirit, focused by cooperating artists in the dramatic form."

The Bohemian Club referred to is made up of 1,000 of San Francisco's choicest spirits in the world of letters, art, and music. The annual play is written, staged, and produced within the charmed circle. It is never afterwards used for any other purpose. It is majestic always in its natural setting, realism itself in effect, and "grips with a beauty that hurts."

This form of education and inspiration has found its way in the United States into institutions of learning of various grades and classes. At the University of California an annual allegorical spectacle is given by the women students which is strictly a communal task. It has for its ritualistic motive the transition from girlhood into womanhood. The triumph has been achieved here of having even the music composed by a student.

Quite a number of the universities, colleges, and normal schools have introduced the study of the art into their curricula. Among these is the University of California, just mentioned; the University of Wisconsin; Dartmouth College, in New Hampshire; the Teachers' College connected with Barnard College in New York City (the Woman's Department of Columbia University); Brooklyn Training School for Teachers; Kansas State Normal School; and the State Normal and Training School at Oswego, N. Y.

Vassar College for Women, Poughkeepsie, N. Y., has an outdoor theater and has given many outdoor performances of great interest and merit. Among them "The Pageant of Athena," in celebration of the semicentennial of the college last autumn, was the work throughout of students. Another university celebration in allegory of more than usual interest was that of Hollis Hall at Harvard University, given in 1913, in commemoration of the one hundred and fiftieth anniversary of the opening of the hall. The master was Prof. George P. Baker, of Harvard, and the work throughout was that of Harvard men. The music was specially arranged by a graduate, and a song and anthem composed for the occasion by other members of the alumni.

As an allied movement of lesser pretensions it is interesting to note the growth and influence of the rural drama as a form of instruction and an appeal to patriotic, artistic, or religious sentiment. One



Photo by Thomas G. Hawkes.

MAY DAY REVELS AT MOUNT HOLYOKE COLLEGE, SOUTH HADLEY, MASSACHUSETTS.

Presentation of old English folk dances by the students, appropriately dressed in historically correct costumes, was the leading feature of the May Day celebrations at Mount Holyoke College. Performances such as these, in addition to the pleasing effect of the spectacular features, are valuable as studies of the manners and customs of the people of past generations, and in this respect bear a close relation to pageantry.



Copyright by Wolsen, Poughkeepsie, N. Y. Courtesy of Miss L. C. Lakin.

CELEBRATING FOUNDER'S DAY AT VASSAR

In line with the recent revival of pageantry and open air dramatic presentation, celebrated by the faculty and students of Vassar College presented two performances in the celebration of Founder's Day which demonstrated the interest that great college for women takes in Spanish literature. One of these was the presentation of the farce *Los Dos Indios*, generally attributed to Cervantes, which had been translated by two of the young ladies, Misses Lakin and White. In the scene shown the opening scene of the farce is being presented.



Copyright by Wolsen, Poughkeepsie, N. Y. Courtesy of Miss L. C. Lakin.

SCENES FROM THE TIT OF CERES

One of the most interesting and pleasing performances given in connection with the celebration of Founder's Day at Vassar College was the presentation of *Scenes from the Tit of Ceres*, by one of the students, Mr. Virginia Archibald. In *The Tit of Ceres*, she writes: "The staging was carefully and effectively arranged and preserved by the continuing and helpful local color of the scene, the lattice behind which the fair women of the Tit of Ceres, which accompanied it, all bowed and bowed to the crowd."

such drama, "Back to the Farm," was written by a student in the Agricultural College of the State of Minnesota. A company was trained for its presentation, and it proved so popular that five companies were trained to present it in practically every rural community of the State under the auspices of the extension division of the State University.

The church in all ages has used allegorical representation to inform and instruct in things recondite and spiritual. In some instances this has been done with such great spectacular effect as to make the times or the occasions notable. One instance that stands out in history is that of the Grey Friars of Coventry, England, who drew enormous multitudes to the city annually to witness the Corpus Christi plays. Another instance is that of the Autos Sacramentalis of Calderon, for which the cities of Toledo, Seville, and Granada in Spain are said to have paid the dramatist very large sums of money. A third is that of the Passion Play at Oberammergau, in which a whole community unites in the representation, once in every 10 years, of the events in the life and death of the Savior.

In each and all of these there are some of the elements which mark the revival. It remains to be seen just what the present day movement will bring. The rapidity with which it has spread has been phenomenal. Already certain fixed standards have been evolved, and a very well-defined purpose marks its development and brief history.

The Evolution of the Vehicle (Part III), the third and last installment of the series of articles appearing in the Spanish edition of the BULLETIN under that title, is reproduced in its English version as follows:

As noted in the preceding installment of this account of the evolution of the vehicle, it was during the eighteenth century that the coach of state and the private conveyance flourished in all their pomp and excess of adornment. The desire for glittering ostentation and display of luxury on the part of European royalty and the lesser satellites who revolved about the individual monarchs was one of the factors which entered into the social problem that found its climax in the French Revolution. Senseless extravagance and ridiculous display on the part of the ruling classes, accentuating the contrast between the living conditions of the nobility and the great body of the producing classes, did much to hasten the inevitable protest of sense against nonsense, of the competent intelligence of leaders of the masses against the stupidity of an effete aristocracy whose extraordinary vanity blinded it to its own vapid weakness.

The glittering, gilded, scented, and gorgeously painted coach of the rich noble of the eighteenth century epitomized the life of its owner. The French revolutionist put an end to both, not only in France

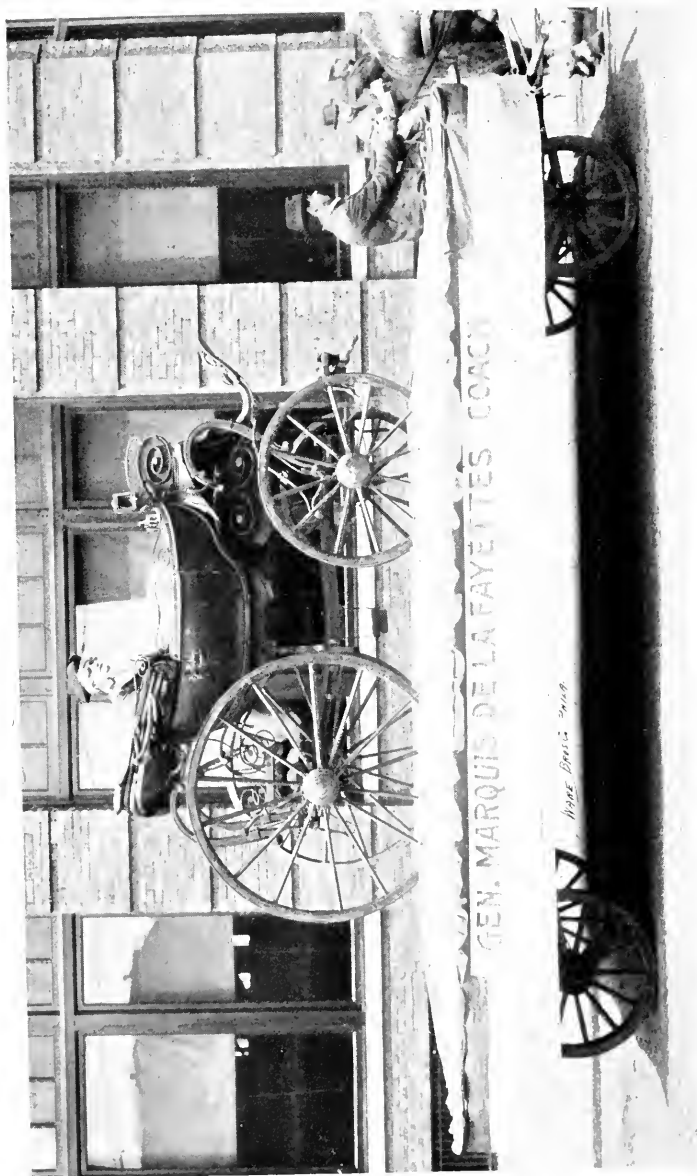
but practically the world over. The bloody guillotine taught its salutary lesson to the world, and everywhere humanity began to recover its sense of proportion. Vain ornament gave way to practical utility, and the vehicle builder reflected the trend of the times in his art. To combine lightness in weight and grace of lines with strength and durability became the subject of the carriage maker's study, and the development of the vehicle of the nineteenth century was along this line. In the accompanying illustrations may be seen a few of the diverse forms which were evolved to carry out these ideas.

Upon the occasion of the visit of the Marquis de Lafayette to the United States in 1824 as the Nation's guest, a tour of the country he had so materially aided in its successful struggle for independence was one of the features provided for his entertainment. In order to specially honor their distinguished guest and to make his tour as comfortable as possible, Congress ordered a special coach built for his use. Its light and graceful body, shown in the accompanying picture, offers quite a contrast to the ponderous, gilt-covered, clumsy state coaches of the previous century, and shows a decided improvement even over Washington's coach, built about 30 years earlier, while President Lincoln's carriage, built some 40 years later, shows but little advance in simplicity of construction and lightness of gear over Lafayette's.

In public conveyances the stage coach for long-distance travel and the omnibus for urban uses long held sway. The steam locomotive relegated the first to the scrap heap, while the gasoline motor has put a quietus on the latter, which brings us to the consideration of the evolution of the vehicle from the horse-drawn carriage to the automobile or motor car of the present.

The idea of a power-driven light vehicle for use on ordinary highways is not as new as some may think, notwithstanding the fact that the development of the automobile into a commonplace vehicle of everyday use in nearly all the leading countries of the civilized world is an accomplishment of the last 12 or 15 years. Credit for the first primitive motor vehicle capable of practical use is usually given to a Frenchman by the name of Cugnot, who in 1770 built a small three-wheeled wagon which carried two people at the rate of 2½ miles an hour. Like all the early motor cars, this was propelled by a small steam engine, taking steam from a plain drum boiler fired with coal or wood.

In England the pioneer in this line was Richard Trevethick, who in 1803 succeeded in building a practical steam carriage which he successfully operated in London. Like most innovations it grew slowly in favor, although by 1824 a number of these vehicles had been constructed and were being used with some success as stage coaches.



MARQUIS DE LAFAYETTE'S COACH.

When the Marquis de Lafayette visited the United States as the Nation's guest in 1824, Congress ordered a special coach built for his use in touring the country. The coach is still in existence, being owned by a large carriage manufacturing company in South Bend, Indiana. In a recent pageant, depicting the evolution of the vehicle, and presented in that city, the honored relic was placed on one of the floats and formed one of the interesting features of the occasion.



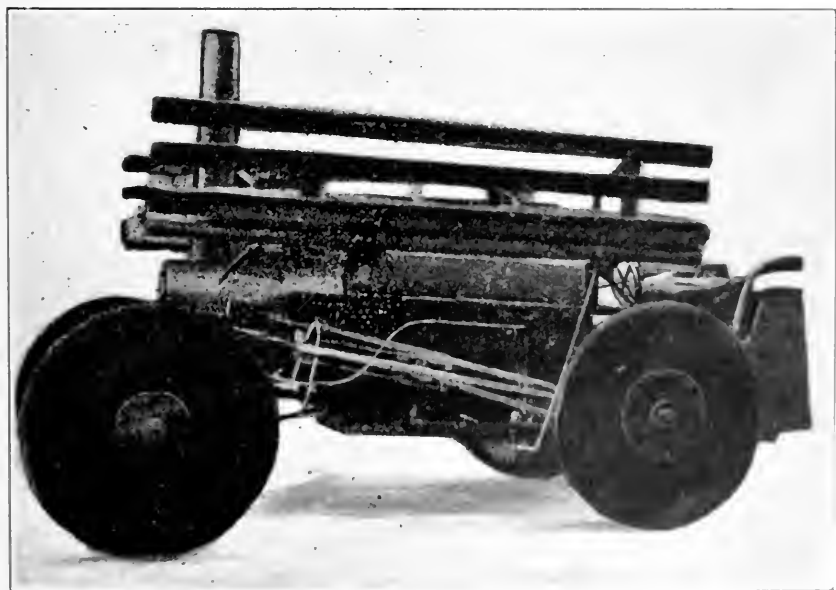
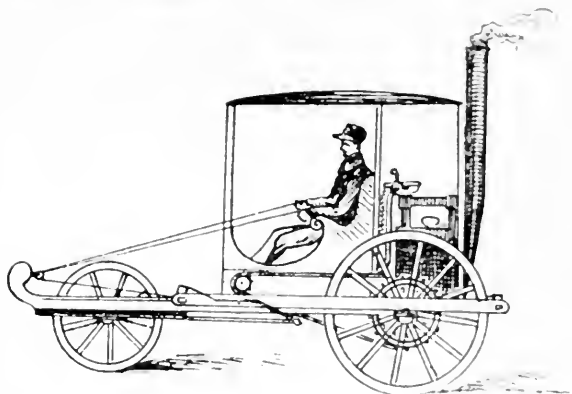
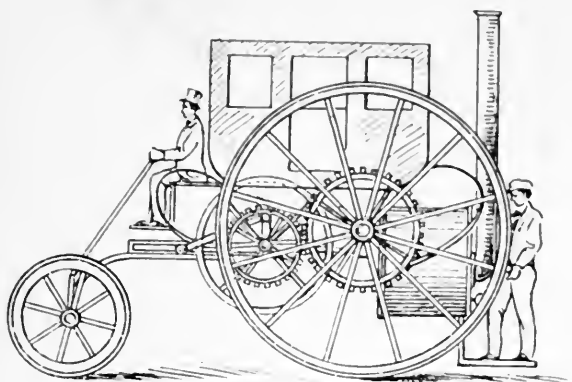
PRESIDENT LINCOLN'S STATE CARRIAGE.

It is a carriage that President Lincoln used on the evening of April 14, 1865, when he was assassinated in Ford's Theater in Washington by John Wilkes Booth. The light, plain, and practical carriage offers a fitting contrast to the heavy, ornate, gilded state carriages of European monarchs of the preceding era.

propelled by steam. Some of these, weighing as much as 3 or 4 tons unloaded, ran regular passenger services between Cheltenham and Gloucester, attaining average speeds of 10 to 14 miles per hour. They were equipped with horizontal boilers and their driving wheels were 10 feet in diameter. Owing to the determined opposition of those interested in turnpikes and the promotion of railways, many stumbling blocks were placed in the way of the development of the motor or steam propelled vehicles, and prohibitive toll rates were placed on them by 1832. Even as late as 1865 a law was enacted in England which provided that (1) the number of persons required to drive the machine should be increased to three; (2) that a man should precede it with a red flag; (3) that the maximum limit of speed should be reduced to 4 miles an hour; and (4) that they should be forbidden ever to blow off steam, etc. Naturally, the industry in England languished. It was not until 1896 that the "locomotives on high-ways" act removed some of these restrictions.

The great problem for the builder of the motor car was to reduce the weight and size of the boiler, or rather to obtain enough generative capacity from a boiler of feasible proportions. A French inventor, Serpollet, devised a special shape of tubes through which the water was circulated in such a way as to be evaporated almost instantaneously into steam upon entering the boiler. The boiler could be safely operated at a pressure of 1,000 pounds or more to the square inch, and this, together with the instantaneous production of steam, solved the problem of sufficient boiler capacity. This improvement, while it made the steam-driven car a success, came, however, at a time when the gasoline engine was entering the field, a competitor too strong for the steam engine.

The history of the gasoline motor car perhaps really begins with the construction of a successful gasoline engine in Germany by Gottlieb Daimler in 1884. In that year he patented an engine which was similar in its essential features to the modern four-cycle engine, and in 1886 he first applied this engine for the propulsion of a bicycle. The French and Belgian rights to construct his engine were acquired in 1889 by Messrs. Panhard and Levassor, whose first car was built in 1891. Another pioneer in the development of the gasoline engine was Benz, another German, who produced a mechanically propelled tri-cycle in 1885. His engine is noteworthy in being the first to have electrical ignition, which is now universally used on automobile engines. These may be considered as the first effective steps in the development of the modern automobile in Europe. Progress was somewhat slow, but in 10 years the motor-propelled vehicle had grown in popularity to such an extent that the *Petit Journal* of Paris offered an attractive prize for an automobile race from the French capital to Rouen. This occurred in 1894, and was followed by another race



EARLY FORMS OF MOTOR VEHICLES.

Upper: Richard Trevethick's steam carriage of 1802, the first practical motor vehicle built in England. A number of these vehicles were successfully used for a time in the form of stagecoaches, offering regular passenger services between Cheltenham and Gloucester, attaining a speed of 10 to 14 miles per hour. Center: A picture of a steam vehicle, published in the *Scientific American* of October 2, 1863. Lower: In 1860 Richard Dudgeon constructed one of the first practical power-driven road vehicles in the United States. It was virtually a locomotive adapted to road travel, and frequently attained a speed of 35 miles an hour.

the following year from Paris to Bordeaux, in which there were 66 entrants.

In the meantime the inventors in the United States had been giving their attention to the problem. In a recent article in the *Scientific American*, dealing with the rise of the automobile, some interesting facts in regard to its development in this country are brought out, and the following brief outline is chiefly taken from that source.

George B. Selden seems to have been really the first man in the United States to begin experimenting with power-driven vehicles about 1874. Realizing that the steam engine was entirely too heavy for his purpose, he endeavored to produce a gas engine. At first he generated gas by burning liquid fuel, and tried to utilize this gas in the cylinder of the engine just as steam is used. He soon found that this was not practical, and finally decided that the combustion of the gases should take place in the cylinder itself. About this time he came across the work of Brayton, who was building internal-combustion engines for boats. Brayton's idea was to compress the gas and ignite it as a jet in the cylinder. Having built a model and having satisfied himself that he was on the right track, Selden applied for a patent in 1879. Thus Selden may be considered the first man in the United States to invent a gasoline automobile, but, according to the *Scientific American*, "he was not a pioneer, for he did not show the way to others. Instead, he kept his patent pending in the Patent Office for 16 years. Not until 1895 was the patent issued and the public apprised of the early work of George Selden, by which time the automobile had been well established and was being manufactured here and abroad."

Despite the prior invention of Selden, continues the writer in the *Scientific American*, we may point to Charles E. Duryea as the father of the American automobile. He started out at first with the idea of building a flying machine. It was in 1886, at the Columbus (Ohio) State Fair, that he came across a gas engine. It used gasoline for fuel and had electric ignition. Mr. Duryea tells us it weighed a ton at least and was as large as a dinner table, while the gas tank was as big as a washtub. Beautiful as this machine looked to Mr. Duryea, it was evidently not adapted to flying, but it occurred to him that it would make a good horse, so he decided to build a motor-propelled road vehicle. It was not, however, until the fall of 1891 that he began to construct his first motor carriage, which was completed and ran successfully the following spring. This encouraged the building of a second and a third machine. The last was a big success.

In the meantime R. E. Olds had built a buggy that was driven by steam in 1887. This was a three-wheeled machine in which gasoline was used as fuel, and was followed by a four-wheeled vehicle later.



Courtesy of the Scientific American

EARLY AMERICAN TYPES OF MOTOR VEHICLE

Upper: The Stanley brothers in their first power-driven vehicle, the pioneer of modern American team vehicle. Center: The first successful American gasoline car, built by Charles F. Duryea in 1892-93. Lower: Charles F. Duryea in his famous motor car, which won important races in the United States and Europe.

In 1894, however, Olds realized the advantages of the gasoline motor and began the construction of that class of automobiles. In the same year two other pioneers appeared. Charles B. King, a manufacturer of marine gasoline engines, placed one of his engines in his buggy and operated it successfully on the streets of Detroit, while Henry Ford, who had built a steam vehicle in 1892, started the construction of a gasoline machine in 1894, which was not completed until 1896.

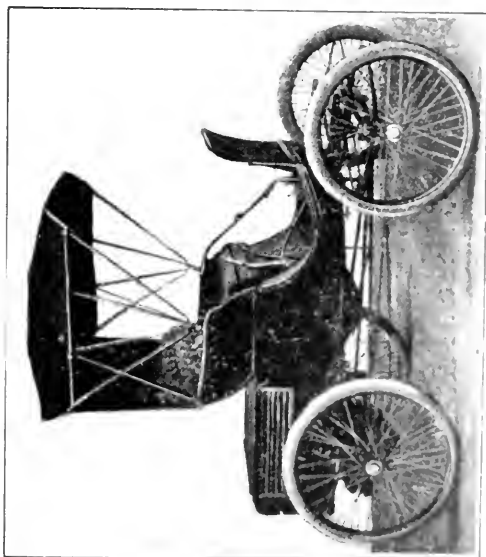
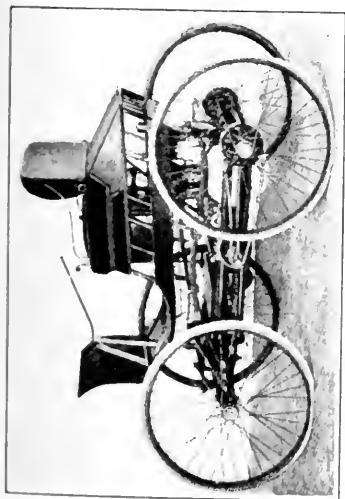
In order to stimulate interest in the matter of perfecting the automobile, the Chicago Times-Herald offered \$5,000 in prizes for a race to be held at Chicago in 1895. The race took place in the fall of that year, two Benz cars, a Roger from France, a Duryea, and a Sturges electric being the participants. The Duryea won easily. The second big race was held in New York the following year, when again the Duryea cars won all the prizes.

The greatest of the earlier international events, however, took place in England in 1896, when a big race was held to celebrate the repeal of the restricting laws heretofore mentioned. The race course was laid out from London to Brighton, a distance of 52 miles, and the American entrant won over all competitors, thus demonstrating the superiority of the Duryea type.

The electric car had meanwhile also come into prominence. In fact, it antedates the gasoline car in the United States, for as early as 1882 an electric passenger "brake" with a capacity of eight passengers was running in Boston. It had a maximum speed of 16 miles an hour, and at half that speed could travel 40 or 50 miles on a single charge of its battery. In 1888 an electric "runabout" made its appearance on the streets of Boston and was used daily. By this time improvements in the storage battery had made electric vehicles feasible, and by 1898 various forms had been built and made a creditable showing at the Electric Show in New York City that year. With its simplicity of construction, easily learned driving, and recent improvements in batteries, the electric vehicle gives promise of being an active competitor of the gasoline car.

Alexander Winton was among the first of the automobile promoters and builders in the United States. He demonstrated the possibilities of the motor car for long-distance travel by crossing the continent in one of his cars in 1903, after two previous unsuccessful attempts. He also claims to have been the pioneer manufacturer, having built and sold four cars in 1898.

Limited space prevents an account of the many inventions and improvements in automobile construction within the last dozen years. By 1904 the air-cooled four-cylinder Franklin had appeared, as had the beehive radiator and magneto ignition. More attention was paid to the automobile tops, in order to make the cars servicea-



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EARLY TYPES OF AMERICAN MOTOR VEHICLES.

Top left: Charles H. Hays' car that ran in 1890 and won a prize for design in 1891; right, Charles B. King steering his power-driven buggy, equipped with a gasoline engine, in 1891. Bottom: Left, the first Winton car sold (1893); right, R. E. Old's first gasoline car, completed in 1895.

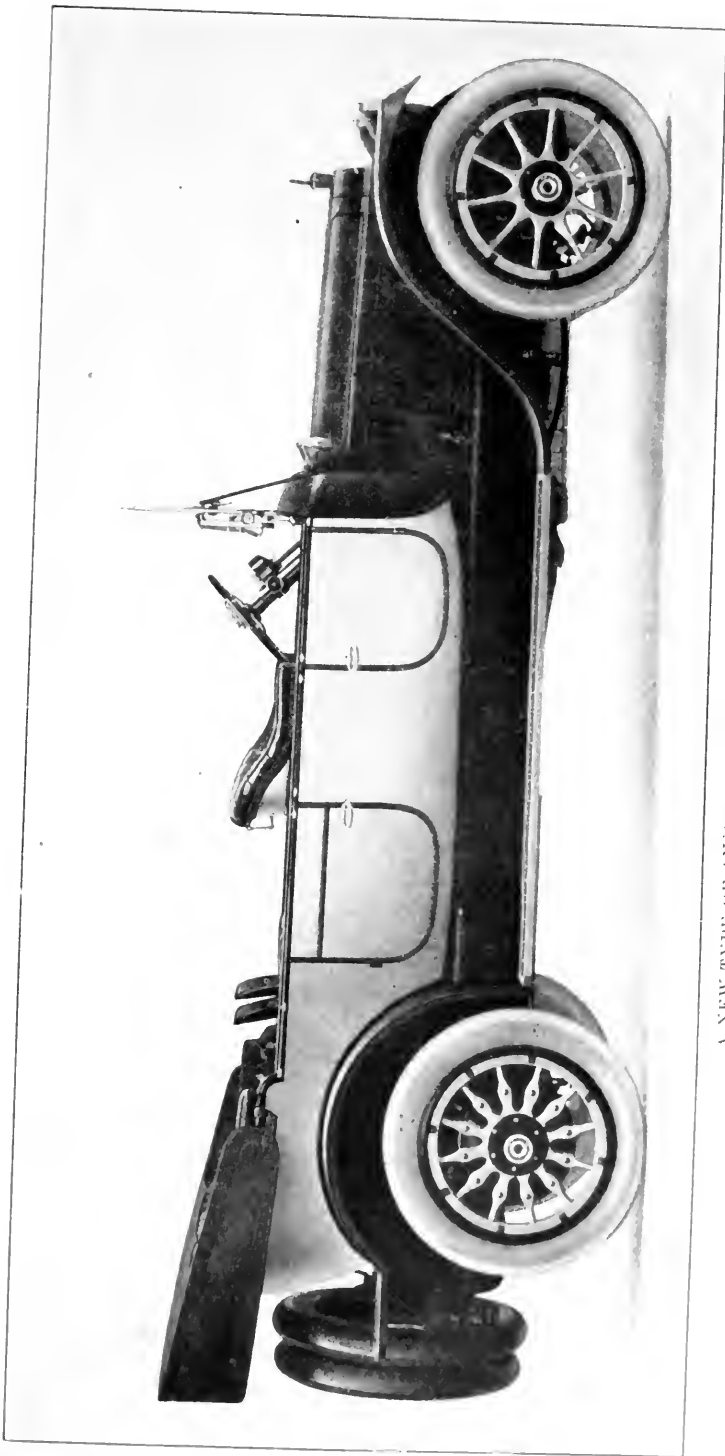
ble in all kinds of weather. The motor was universally placed in front, where it could get air; air cooling it with a fan proved a success; the transmission and rear axles were provided with ball bearings; the mechanism was provided with mechanical lubrication; carbureters were rendered automatic; the use of the magneto was on the increase; and wheel steering had become almost universal. Several two-cycle three-cylinder cars had made their appearance, and wood was replacing wire for wheel spokes.

In 1905 the four-cylinder car was established, and bevel drive displaced the chain almost entirely; the old bicycle wheel tubing disappeared, and special construction was used in the framework of the chassis. Special grades of steel were introduced; the jump spark was used almost entirely, and the transmission was extensively employed. In 1906 roller bearings on the rear axles were used. Much attention was given to shock absorbers and rebound checking devices, and the machines were provided with foot brakes and emergency hand brakes. In 1907 the six-cylinder engine came in.

The low-priced car made its appearance in 1909. In 1911 the Knight silent engine, an American invention, which had been taken abroad a few years before because it found little encouragement here, was brought back and introduced in American cars, thus doing away with the ordinary noise of the common engine. By 1912 mechanical means of starting the engine were devised successfully and many varieties of devices are now in use. An increasing use of electricity has marked the progress recently of gasoline engines for starting engines, shifting gears, operating horns, lighting the car, etc. For the present year the chief development is the multicylinder engine. The Cadillac Motor Car Co. started the movement with an eight-cylinder V-type engine and numbers of other manufacturers followed its example. The latest announcement is of a car of 12 cylinders, or, as it is sometimes called, a "twin six."

Such is a brief account of the remarkable rise of an industry which has grown up through the evolution of the vehicle. Its effect has been felt in many different channels, and this latest form of vehicle building has brought prosperity in many different lines, notably to the rubber industry, steel tool industry, leather industry, etc. Some idea of the value of the automobile industry to the United States may be had from the recently published statistics for 1914. These show that there were in use 1,660,984 automobiles and 44,355 motor trucks. Over 21,250 manufacturers and dealers' licenses were issued.

Last year, notwithstanding the falling off of sales to some of the countries engaged in the European war, the United States exported \$25,392,963 worth of passenger automobiles, \$1,181,611 worth of commercial automobiles, and \$6,624,332 worth of automobile parts and accessories, not including engines and tires. It may be added



A NEW TYPE OF AN AMERICAN 12-CYLINDER AUTOMOBILE.

that the popularity of passenger automobiles manufactured in the United States even in Europe is attested by the fact that the countries of that continent took over \$10,000,000 worth.

The evolution of the vehicle from the primitive sledge to the latest development of the modern automobile has thus been briefly traced in this series of sketches. The next step will doubtless be in perfecting the aeroplane to the extent of making it a common vehicle for commercial use. Its value as a destructive agent in war, especially for scouting purposes, has been established by its constant employment during the present conflict in Europe. Undoubtedly the development of flying vehicles for commercial purposes is not far off. For rapid transportation even the automobile may have become obsolete by the time another decade has passed, but until its use in ordinary business channels has been definitely established the aeroplane can hardly be considered as a practical vehicle. A consideration, therefore, of its history and development may be left to the time when it has reached its more perfect state and passed the experimental stage in which it still remains at present.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO JULY 15, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
Census of the Argentine Republic.....	1916. May 26	W. Henry Robertson, consul general, Buenos Aires.
Annual report on commerce and industries for 1915.....	June 3	Do.
BRAZIL.		
Exportation of refrigerated beef.....	May 20	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Market for American marble and granite.....	...do....	Carl F. Deichman, consul, Santos.
Paper bags.....	May 26	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Native hardwoods of Brazil.....	June 1	Do.
Yerba maté.....	June 5	Do.
Pamphlet regarding fruit trade.....	...do....	Do.
American cargoes on interned German vessels at Rio de Janeiro.....	...do....	Do.
Market for American marble and granite in Pernambuco.....	...do....	A. T. Haeberle, consul, Pernambuco.
Drainage for Parahyba (supplemental).....	June 6	Do.
Annual report on commerce and industries for 1915.....	June 10	Robert Frazer, jr., consul, Bahia.
COLOMBIA.		
Packing-house proposals in Colombia.....	June 10	Leonard Blake Modico, vice consul, Cartagena.
COSTA RICA.		
Market for sporting ammunition in Costa Rica.....	June 19	Samuel T. Lee, consul, San Jose.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to July 15, 1916—Continued.

Title.	Date.	Author.
CUBA.		
Review of commerce and industries for 1915.....	1916, June 30	Henry M. Wolcott, consul, Habana.
DOMINICAN REPUBLIC.		
Annual report on commerce and industries for district, 1915.....	May 9	Frank Anderson Henry, consul, Puerto Plata.
GUATEMALA.		
Silk trade of Guatemala (imports for 1913-14).....	June 13	Stuart Lupton, consul general, Guatemala.
NICARAGUA.		
Annual report on commerce and industries for 1915. First section.	Apr. 6	John A. Gamon, consul, Corinto.
Advance in freight rates from Corinto to New York.....	May 1	Do.
Annual report, 1915. Second section.....	May 8	Do.
PARAGUAY.		
New port works for Asuncion formally inaugurated.....	May 29	Samuel Hamilton Wiley consul, Asuncion.
Foreign trade of Paraguay for three months, 1916.....	June 3	Do.
PERU.		
Market for American marble and granite.....	May 26	William W. Handley, consul general, Callao.
Exportation of rice prohibited.....	June 13	Do.
SALVADOR.		
Free importation of silos.....	Mar. 29	Lynn W. Franklin, vice consul, San Salvador.
Tariff on importation of anhydrous ammonia.....	Mar. 30	Do.
URUGUAY.		
Wheat exposition.....	Mar. 27	H. F. Arthur Schoenfeld, chargé d'affaires ad interim, Montevideo.
VENEZUELA.		
Market for leather belting.....	June 11	G. K. Donald, consul, Maracaibo.

ARGENTINE REPUBLIC

The proposed AGRICULTURAL BUDGET for 1917 amounts to 11,276,248.20 pesos national currency, as compared with 12,299,390.80 pesos allowed for the 1916 budget. According to statistics of the Ministry of Agriculture, the WHEAT CROPS of Argentina from 1906 to 1915 occupied the first place in importance as compared with other commodities produced by that country. The records for some of the years are as follows: 1906, 2,137,675 tons, valued at 71,039,145 pesos gold (paper peso = \$0.43, gold peso = \$0.96); 1908, 3,803,206 tons, valued at 133,975,945 pesos; 1910, 2,018,160 tons, valued at 77,449,407 pesos; 1913, 2,998,192 tons, valued at 109,855,000 pesos; 1914, 1,076,703 tons, value at 11,646,000 pesos; and 1915, 2,676,611

tons, valued at 142,704,000 pesos gold. During the five-year period from 1911 to 1915, inclusive, Argentina produced 4 per cent of the total world production of wheat for that period, which was 106,000,000 tons.—The Gaceta of Buenos Aires announces that an Argentine-Chilean company that owns more than 1,000,000 hectares (hectare = 2.47 acres) of land in both republics has sold to a North American syndicate 410,000 hectares, situated in the Argentine Territory of Neuquen, for the sum of 9,750,000 Chilean pesos. The purchasing syndicate will divide the land into CATTLE AND SHEEP RANCHES and conduct the cattle business on a large scale.—An important AVI-CULTURAL EXPOSITION was recently held in the city of La Plata, at which a large number of exhibits of fowls from Uruguay and Chile was made.—On May 24 the CLOCKTOWER presented to the municipal authorities of Buenos Aires by the resident British Colony was inaugurated with impressive ceremonies in the presence of the President of the Republic and other high dignitaries.—The Ministry of Public Works has approved the plan for constructing a DIKE on the Conlara River, water from which will be used for irrigation purposes at Santa Rosa, in the Province of San Luis.—An EVENING ENTERTAINMENT was given on May 21 in one of the principal theaters of Buenos Aires in honor of the late Nicaraguan poet, Rubén Darío. The proceeds from the entertainment will be used for erecting a monument to Rubén Darío in Buenos Aires.—On July 9 the Rural Society of Rosario, in cooperation with the National School of Agriculture, held its second CORN CONTEST in the city of Casilda for agriculturists of the Department of Caseros and surrounding territory. Valuable awards were made for all classes of corn by expert judges.—The Argentine Rural Society has secured special privileges from the Ministry of Agriculture, exempting from taxation, etc., all cattle, sent by Uruguayan, Chilean, Brazilian, and Paraguayan cattlemen for exhibition at the great INTERNATIONAL CATTLE EXPOSITION, to be held in Buenos Aires, August 15–22, 1916.—At the CATTLE, AGRICULTURAL, AND INDUSTRIAL EXPOSITION recently held in Santa Fe, among the various premiums awarded was the Santa Fe cup, donated by the Government of the Province.—The budget of expenses for PUBLIC INSTRUCTION for the current year has been fixed at 3,740,222 pesos national currency.—A recent executive decree authorizes the temporary suspension of receiving gold on deposit at the ARGENTINE LEGATIONS abroad. The decree is provisional and may be withdrawn at any time.—During the fiscal year of 1915, 61,804 persons visited the ARGENTINE LIBRARY of Buenos Aires, or a daily average of 182 persons, a figure that shows this library to be one of the most frequented in the Republic. The number of lectures, art entertain-

ments, etc., given by the institution during the year amounted to 38, which gives an idea of its educational facilities. — *La Capital*, a newspaper of Rosario, states that the forty-sixth anniversary of the inauguration of the ARGENTINE CENTRAL RAILWAY in Rosario was impressively celebrated there on May 18 last in the presence of the highest dignitaries of the Republic, and calls attention to the great industrial development due to this railway, whose system now extends throughout the whole country and whose anniversary should be celebrated as one of the greatest events in the history of the country. — An active campaign for promoting COMMERCIAL INTERCHANGE between the Argentine Republic and Spain has recently been undertaken by *La Union*, a newspaper of Buenos Aires. — The board of directors of LA PLATA UNIVERSITY have issued new rules and regulations for the enrollment of students. — During the first four months of 1916 Argentina exported 1,402,219 HIDES, 1,045,402 of which went to the United States and were made up of 604,305 green hides and 441,097 dried. These figures show that more than two-thirds of all the hides exported by Argentina during the first four months of 1916 were bought by the United States. — The National Athenaeum of Buenos Aires will soon establish a COURSE IN BIBLIOGRAPHY, which will be divided into four parts. — Foreign STEAMERS AND SAILING VESSELS to the number of 565, with a total tonnage of 841,735 tons, entered and cleared from the port of Buenos Aires during the first five months of 1916, as compared with 656, with a total tonnage of 814,505 tons, in the corresponding period of 1915. — Facing page 519 of the April, 1916, English edition of the MONTHLY BULLETIN is a cut of "THE SPANISH MONUMENT IN BUENOS AIRES," the caption of which states that it is the work of the sculptor, Arturo Dreseo, and cost nearly \$90,000. This statement is erroneous. The monument in question was wrought by the sculptor Agustin Querol and cost approximately 1,350,000 pesos, currency, or an equivalent of \$573,075, American gold. Miss Annie S. Peck, a noted American lecturer, magazine writer, and mountain climber, who has traveled extensively in the Old and the New World, gave an interesting and instructive lecture in Spanish, on the CITY OF NEW YORK, in the beautiful hall of "La Prensa" (The Press) in Buenos Aires on May 31 last, to a select audience particularly interested in Pan American affairs. Miss Peck has traveled all over South America, is the author of "Search for the Apex of America," "The South American Tour," and has written many magazine articles, and recently delivered a series of lectures on Latin American subjects in Paraguay. Other lectures are planned by Miss Peck in Buenos Aires in the near future on subjects covering commerce, banking, and manufacturing in the United States.

BOLIVIA

Bolivian newspapers, commenting on the increased activity of mining enterprises, note with satisfaction that within a few years Bolivia has passed from third to SECOND PLACE in supplying the world with tin; the only section producing greater quantities being the Straits Settlements. One paper ventures to prophesy that within 10 years Bolivian production will exceed that of any other section of the world.—During the first four months of the present year there were exported 755 metric tons of WOLFRAMITE ore; this amount is only 37 tons less than the total quantity shipped during the whole of 1915. The prevailing prices for the four months made this one product net 6,644,000 bolivianos, or, roughly speaking, nearly \$3,000,000. Oruro, La Paz, and Potosi, respectively, are the regions which contributed the greater quantities.—El Diario, one of the leading newspapers of La Paz, in a recent issue reviews the EDUCATIONAL PROGRESS of the country during the last 16 years. Schools and colleges have increased in number and professional teachers, both native and foreign, have been selected with care and their work is highly praised. To-day the outlook is bright and greater progress in educating the masses is predicted.—Visitors to Bolivia who have not sufficient time to inspect the mineral regions will find in the new MINERALOGICAL MUSEUM in La Paz a marvellous collection of minerals gathered from all sections of the country. Much time and expense is being devoted to building a great museum of Bolivia's natural products, and considerable progress has already been made in installing exhibits.—The PRODUCTION OF SUGAR is one of the enterprises that has a most promising future. Private advices received from Santa Cruz de la Sierra by the Pan American Union give details relative to the growing of sugar cane and estimate expenses of starting the industry on larger scales. The product would have a ready sale in Bolivian cities lying high in the Andes where cane does not grow. Santa Cruz is 546 miles eastward from La Paz and lies at an altitude suitable for rice, cane, and many similar agricultural crops. Heretofore the greatest difficulty has been the question of transportation, but the advent of the automobile truck, now successfully operated in other sections of the country, is renewing attention to a vast and promising cane-producing region. The nearest railway at present is 275 miles distant at Cochabamba; the other route to steam navigation on the Paraguay is 400 miles, and both are covered now by mule or ox teams.—Capitalists who may be considering the possibilities of Bolivia as a field for exploitation are likely to be interested in a new book entitled FINANCIAL HIS-

TORY OF BOLIVIA (*Historia Financiera de Bolivia*), which is on the market in La Paz. The book is written by Sr. Caro, and is reviewed extensively in *El Diario*, of the capital city, in the issue of May 18 last.

BRAZIL

According to the official report of the Office of Commercial Statistics of the Ministry of Finance of Brazil, the total FOREIGN TRADE in milreis gold for the year 1915 as compared with 1914 was: 1914, imports, 315,312,312; exports, 413,570,535; total, 728,882,847. 1915, imports, 267,452,367; exports, 470,847,402; total, 738,299,769. Expressed in terms of United States currency, on the basis of the gold valuation above, the trade for the two years was: 1914, imports, \$172,223,584; exports, \$225,892,226; total, \$398,115,810. 1915, imports, \$146,082,483; exports, \$257,176,851; total, \$403,259,334. In 1915 Brazil's trade with the United States was: Imports, \$46,858,165; exports, \$107,523,931; total, \$154,382,096.—The SECOND FRUIT EXPOSITION, in conjunction with the First Horticultural Exposition, was opened in Rio de Janeiro on July 9 in the new permanent buildings recently completed. Foreign as well as domestic fruits were exhibited for the purpose of promoting cultivation and commerce in fruits of all kinds.—An important SCIENTIFIC EXPEDITION was recently made under the direction of the Director of the National Museum to the Island of Trinidad, situated in the South Atlantic, 600 miles off the coast of the State of Espirito Santo. Valuable specimens of the flora and fauna of the island were secured as well as many varieties of aquatic plants.—On June 1 the NATIONAL COTTON CONFERENCE, presided over by President Wenceslão Braz, was opened in the National Library of Rio de Janeiro. Statesmen and agricultural leaders from all parts of the nation were in attendance for the purpose of finding ways and means of developing and perfecting the cultivation of cotton and its related industries.—According to A Rua, the National Society of Agriculture is receiving many inquiries for BRAZILIAN FIBERS, and considerable trade is being developed in this industry.—The State authorities of Bahia have decided to hold an EXPOSITION OF BAHIAN PRODUCTS in conjunction with the Fifth Brazilian Congress of Geography, which will meet in the city of Salvador, capital of the State of Bahia, September 7-16, 1916. An AMERICAN CHAMBER OF COMMERCE was recently established in Rio de Janeiro to promote closer relations in commerce and good understanding between Brazil and the United States, and an advisory board was elected to direct its affairs. Beginning with July,

the chamber will issue a quarterly English-Portuguese magazine.—A recent executive decree grants permission to a North American COAL COMPANY, called the Berwind Terminal Co., to operate in Brazil. The company proposes to buy and sell all kinds of combustibles, manganese and iron ores, etc., and to export and import same.—The COFFEE CROP of Brazil for 1916 is estimated at 17,000,000 bags of 60 kilos each. A change of markets has been brought about by the European war, but the United States continues as the chief purchaser.—The Brazilian Aero Club inaugurated the new AVIATION SCHOOL at Rio de Janeiro on May 28. An interesting feature of the ceremonies was an exhibition in aerial navigation by the celebrated Brazilian aviator, Santos Dumont, and other experienced aviators.—Plans and preparations are being made by the Brazilian Press Association for holding the FIRST BRAZILIAN JOURNALISTIC CONGRESS in Rio de Janeiro on September 10, 1917, in celebration of the centenary of the founding of the journalistic press in Brazil. Important questions pertaining to the history of Brazilian journalism will be discussed at the Congress. Plans are also under consideration for founding a school of journalism in Rio de Janeiro, to train men for newspaper work and to be modeled after the best institutions of a similar nature in other countries.—The proposed BUDGET of the Government of Brazil for the fiscal year 1917, as presented to Congress on June 5, 1916, shows total estimated expenses of 97,750 contos gold (gold conto, \$546; paper conto, about \$250) and 406,388 contos paper, as compared with 84,365 contos gold and 409,850 contos paper of the 1916 budget. The increased expenditures for 1917 are due partly to the decision of the Brazilian Government to resume interest payments on Government loans at the expiration of the moratorium in 1917.



President Juan Luis Sanfuentes delivered an interesting MESSAGE to the National Congress at the opening of its regular sessions on June 1, 1916, in which he reviewed the principal events of his administration and the progress of the country in general. The Executive recommends the early ratification of the PROTOCOL WITH BOLIVIA, signed in 1907, and pending the action of Congress since 1908. Congress is also requested to act on the plans proposed by the Parliamentary Commission concerning COLONIZATION and to approve the proposed settlement of the New Italy Colonization Co. The President recommends the establishment of a department of agriculture in order to encourage the development of that industry

by various means, such as, for instance, drainage works, combating of plant diseases, the destruction of injurious insects, and the building of public highways and railways into the agricultural sections of the Republic. The POSTAL SERVICE of the country was transacted in 1915 by 2,032 employees, who handled during that year 64,593,801 pieces of domestic mail, as compared with 61,387,538 pieces in 1914. The foreign mail handled in 1915 numbered 4,136,197 pieces, as compared with 4,187,363 pieces in 1914, or a decrease of 351,166 pieces in 1915. The domestic postal receipts in 1915 amounted to 3,244,695 paper pesos (paper peso = about 14 cents) and the foreign receipts to 575,118 pesos, or a total of 3,820,113 paper pesos, as compared with 3,811,706 pesos in 1914. PUBLIC INSTRUCTION has received the especial attention of the Government. Recently an industrial school was established at Temuco, and it is proposed to open similar schools at Coquimbo, Valparaiso, Talca, and Valdivia. The agricultural schools of the Republic are being reorganized to meet the growing needs of the country and the national school of arts and crafts has been thoroughly modernized. The executive states that the DEBT of Chile on December 31, 1915, in pounds sterling, amounted to £34,556,380, £2,000,000 of which are in treasury notes and the remainder in bonds. The FOREIGN COMMERCE of the country in 1915 amounted to 475,420,775 Chilean gold pesos (gold pesos = \$0.365), made up of imports, 153,214,557 gold pesos and exports, 322,209,218 gold pesos. The receipts from the RAILWAYS of the country in 1915 amounted to 73,700,000 paper pesos (paper pesos = \$0.14 approximately), and the expenditures to 63,700,000 pesos. The Arica to La Paz Railway in 1915 had a surplus of 258,000 pesos (paper). The department of railways proposes to build a CENTRAL MACHINE SHOP at San Bernardo. With this object in view a competitive prize of £4,000 was offered for the best plans submitted and the award was made to Niles-Bement-Pond Co. of New York. This company will have charge of the construction and erection of the machinery which the new shop may require, and the Government has sent Jorge Benmunt, chief of the shop at Concepcion, Chile, assisted by Rogelio Torres, to the United States to inspect the machinery and receive same when completed. These gentlemen expect to remain in the United States in the discharge of their mission for over a year. The SALMON spawning beds maintained by the Chilean Government in the Cautin River near Temuco will when completed have 16 special tanks with a capacity of 1,000,000 minnows each. The fertilizing of the spawn is done artificially and about 90 per cent of the hatch under natural conditions is obtained. The rivers of Southern Chile are said to be the only ones in South America where conditions are favorable for the propagation of salmon, and it is predicted that

within the next few years Chile will have enough salmon to supply its own needs and a considerable quantity for export.—The Chilean press is advocating the NATIONALIZATION OF THE PETROLEUM fields of the Republic with the object of preventing them while still undeveloped from falling into private hands. The Governor of the Territory of Magallanes recently sent an extensive report to the Federal Government on the Magallanes petroleum deposits, and recommended the adoption of rules and regulations under which the deposits may be developed and operated to the best interests of the people of the Republic.—On September 13, 1916, a congress of the officers and doctors of the HOSPITALS OF CHILE will be opened in Santiago. According to the program the congress will treat of the following subjects: Definite organization of public aid; hospital doctors, helpers, and nurses; new sources of income for hospitals; rules and regulations for hospital construction; organization of medical, administrative, and economic statistics of hospitals, and plans for encouraging provincial and regional hospitals.—Press reports state that the Bank of Chile, the National Bank, and the Bank of Spain have delivered to the Government 30,000,000 pesos to be exchanged for treasury notes, in accordance with the provisions of the INTERNAL LOAN law. These funds are to be applied to the liquidation of pending accounts.—The architect of the department of justice has prepared plans for the construction of a model JAIL FOR WOMEN in Santiago.—The railway board of the Government of Chile has under consideration a LOAN of \$30,000,000 from Philadelphia capitalists for five years in exchange for 6 per cent interest bearing bonds, the proceeds to be invested in railways in the Republic.—The Senate has approved a project for establishing a practical MINING SCHOOL at Antofagasta and the pensioning of students to study the chemical industries of the United States and Europe.



COLOMBIA

According to press reports, the war department of the Government of Colombia has recently established in Bogota a WIRELESS TELEGRAPH SCHOOL under the direction of Col. José Ripolles Miro, a Mexican military officer and wireless telegraph expert. In order to facilitate the working of this school and for the purpose of obtaining practical results within the shortest time possible, the Government proposes to establish wireless telegraph stations at the Military School in the National Capital, and at the village of Serrezuela.—A NATIONAL STUDENTS' CONGRESS met in Bogota on August 7

last. Questions concerning the extension and betterment of education in the Republic were discussed, but the proceedings of the Congress were not available at the time of going to press.—During the first four months of 1916 the NATIONAL REVENUES of Colombia amounted to \$4,360,000, American gold, a considerable increase over the aggregate collected during the same period of 1915.—An AGRICULTURAL AND STOCK FAIR will be opened in Bogota on October 29, 1916, under the auspices of the Society of Agriculturists of Colombia, and in commemoration of the centenary of the martyrdom of the Colombian patriot, Francisco José de Caldas.—The public improvement society of Medellin has founded a school for girls in which PAINTING, sculpture, and drawing will be taught.—A recent executive decree provides for the establishment of MARINE SALT DEPOSITS at Buenaventura, Tumaco, Cali, and Barbacoas for the purpose of providing Pacific Coast points with this necessary commodity.—A company has been formed at Cúcuta, capital of the department of North Santander, to operate cotton gins and to engage in the WEAVING AND KNITTING of cotton fabrics. The company is the owner of a valuable concession granted by the municipality of Cúcuta.—With the object of increasing their trade in Colombia, the Spanish colony has organized a BOARD OF TRADE in Bogota. Steps have been taken to better the transportation facilities at present existing between the two countries.—The department of posts and telegraphs has increased the number of its letter carriers in the city of Bogota and improved its MAIL DELIVERY SERVICE.—The governor of the Department of Antioquia has authorized the opening of the MINT in the departmental capital, private individuals having offered to furnish enough gold bullion to mint coins valued at \$150,000, American gold.—The International Banking Corporation of New York has sent agents, according to press reports, to establish a branch at Medellin.—The legislature of the Department of Nariño recently authorized the departmental governor to borrow the equivalent of \$200,000, American gold, the loan to be guaranteed by the departmental revenues, for the construction of a HIGHWAY from the city of Pasto to Barbacoas, a fluvial port on the Telembi River, about 234 kilometers (145 miles) distant.—The municipal council of Tumaco has published in Colombian and foreign newspapers a notice of its desire to undertake a number of PUBLIC IMPROVEMENTS in that city, such as the erection of an electric light and power plant, potable waterworks, and a wharf at which vessels of deep draft can anchor. A high school is also to be organized in Tumaco and a competent corps of professors employed as teachers. Inquiries concerning these matters should be addressed to the president of the municipality in Tumaco, accompanied by satisfactory references.

COSTA RICA

From September 15 to 17, 1916, an agricultural and industrial FAIR will be held in Limon, on the Atlantic coast of the Republic, under the auspices of the agricultural and industrial board of that city. The object of this fair is to aid agriculture, encourage art, and stimulate the development of the manufacturing industries of the country. According to the program adopted there will be competitive exhibits of natural and manufactured products, with prize awards for the best and most attractive displays. The fair is to be divided into sections containing exhibits of mineral products, vegetables, animal food-products, agricultural products, stock, arts and crafts, and scientific and literary works.—The Costarican Railway, due to the increase in the price of coal, has decided to use PETROLEUM as a fuel for its locomotives. With this end in view the railway company has made a number of contracts with North American firms to supply the quantity of petroleum necessary to enable the company to run its trains.—In June last the charity board of San José opened to public use a new department for men in the San Juan de Dios HOSPITAL of that city under the name of the "Llorente ward." This ward has 40 beds, is modernly equipped, has an operating room, a convalescent room, and is well provided with baths and toilets.—A company with a capital of 250,000 colones (\$116,250) has been organized in San José to work on a large scale the MANGANESE deposits of the Republic.—A company has been organized in the National Capital to erect a CRACKER FACTORY and to operate same under the name of the Great National Cracker Factory.—Congress has enacted a law requiring persons confined in the JAILS and penitentiaries of the country to engage in some useful work.—The President of the Republic has appointed the director general of the normal schools of Costa Rica, Roberto Brenes Mesén, technical INSPECTOR of the schools of the city of Heredia.—Villa de Pacaca, situated in the first district of the canton of Mora, Province of San José, will in future be called Villa Colon, as prescribed by a law promulgated by the President on June 12, 1916.—The Official Gazette of Costa Rica of June 6, 1916, publishes the full Spanish text of the bill presented by the Chief Executive to the National Congress for the establishment of a MORTGAGE SECTION in the National Bank of the Republic. The bank proposes to make long time mortgage loans at rates of interest not exceeding 8 per cent.—Congress has passed a law authorizing the President of the Republic to negotiate a loan with the Irving National Bank and the Bankers' Trust Co. of New York.—The Commercial

Bank of Honduras has sent Antonio C. Weiss, a Honduran banker, to Costa Rica to report upon the advisability of establishing a branch of the **COMMERCIAL BANK OF HONDURAS** in the capital of the Republic. — A bill has been introduced in Congress providing for the construction of a **RAILWAY** from Bahia del Coco on the Pacific Ocean to a point on the Pacific Railway. The plan includes the construction of a branch line to Nicoya, via Philadelphia and Santa Cruz.



Experiments with the Burbank **SPINELESS CACTUS** would seem to indicate that this plant is capable of solving the difficulty of feeding range cattle in Cuba during the four months of the dry season—that is to say, January, February, March, and April—at which time the Parana, Bermuda, and Guinea grasses, so abundant and nutritious during the rainy season, are inclined to dry up and become unpalatable to stock. The cactus grows luxuriantly on the poorest lands of Cuba, and these barren lands, if utilized for this purpose, would furnish sustenance to immense herds of cattle and other ruminants, as well as to vast numbers of horses and mules. The spineless cactus is now being cultivated in the agricultural stations of Cuba, and more and more of them will become available annually for distribution and planting. — The Canadian Land & Fruit Co. have interested a number of **CANADIAN SETTLERS** in Isle of Pines property in the vicinity of Los Indios, and a colony of practical agriculturists has been established there. They propose to engage in the culture of grapefruit and other tropical products. — The President of the Republic has approved laws authorizing the expenditure of the following sums for **PUBLIC WORKS**: \$170,000 for the purchase of ground and building for the Cuban legation at Washington; \$150,000 for the completion of the Santa Clara Aqueduct; \$60,000 for a road from Limonar to Guamacaro, and \$105,000 for a road from Bucanagua station to Isabela. — The sum of \$10,000 has been made available out of the miscellaneous funds of the Government to defray the expenses of studying **PLANT DISEASES** in Cuba. The commission appointed for this purpose by the secretary of agriculture of Cuba is composed of J. R. Johnson, P. B. Cardin, and Dr. Mario Sanchez Roig. — An executive decree of July 4 last authorizes the secretary of public works to contract for **PAVING** and sewerage repairs of the streets of Habana and thereafter to keep the same in good condition. — Dr. Arias, assistant secretary of agriculture of the Cuban Government, has arranged to bring 12 olive trees from Spain to

use in an OLIVE CULTIVATION experiment at the Agramonte agricultural station.—A recent executive decree requires the Baracoa to Guantanamo RAILWAY to submit to the Government for approval or modification, within a period of four months, definite plans for the completion of the entire line, and provides for the building of the road between the places mentioned within five years after construction work is begun. The road in question has a Government subsidy of \$11,000 per kilometer.—The Planters' Association of Los Indios, Isle of Pines, is erecting a PACKING HOUSE. The association is considering the advisability of adopting the ventilated style of shipping crates which have proved so serviceable in Florida, especially in the handling of citrus fruits.—President Menocal has signed the Sagaro educational bill providing for an increase in the salaries of the rural public SCHOOL TEACHERS of Cuba. Under this law more than \$1,000,000 per annum additional will be disbursed for educational purposes. Rural school-teachers who have been receiving \$45 and \$50 a month will in future be paid \$75 and \$80 per month.—The board of directors of the College of Lawyers of Habana has decided to hold the FIRST INTERNATIONAL JURIDIC CONGRESS in the capital of the Republic from the 27th to the 30th of December, inclusive, 1916. It is proposed to have the opening and closing sessions of the congress in the National Theater in Habana, the President of the Republic presiding. The working meetings of the congress are to be held by sections in the National University, the Academy of Sciences, the College of Lawyers, and the Provincial Institute.—The department of public works is considering a project of José Lurian for constructing a sea wall and DRIVE along the beach in Marianao, a suburb of the national capital, similar to the celebrated Malecon of the city of Habana.—A bill has been introduced into the House of Representatives asking for an appropriation of \$5,000 for the construction of a public PARK in Baracoa and requesting the free importation of the construction material needed for this work.

DOMINICAN REPUBLIC

According to press dispatches Dr. Francisco Henriquez y Carvajal was proclaimed PROVISIONAL PRESIDENT of the Dominican Republic on July 26, 1916.—In October, 1915, a sale of from 750,000 to 1,000,000 kilos of Dominican TOBACCO was made through the Dominican consul in Paris direct to the Government of France at prices of 120 francs per 100 kilos for first quality, 110 francs per 100 kilos for second quality, and 100 francs per 100 kilos for third quality. (Franc = \$0.193; kilo = 2.2046 pounds.)

This tobacco proved so satisfactory that the French Government later contracted for a large quantity of the 1916 crop. The buying of the product direct by the Government of France and the high standing in Europe of tobacco grown in the Republic has stimulated the planters of that country to give great care and attention to its cultivation, and especially to the curing and preparing of the product for the market, and the result has been that Dominican tobacco has acquired a standing alongside that of the most famous tobaccos of the world. Recently the Dutch steamer *Fortuna*, which discharged a cargo of merchandise at Puerto Plata, was loaded with tobacco for its return trip. The foreign markets for Dominican tobacco are not confined, however, to Europe and the United States, for there is also a demand for it in Porto Rico, and only a few weeks ago a representative of one of the large Porto Rican cigar and cigarette factories was unable, for the moment, to obtain a desired supply, although he was assured that later on, when more normal times obtain in the Republic, his orders could probably be filled.—During the latter part of June, 1916, a shipment of 283,800 gallons of PETROLEUM and 68,250 gallons of gasoline was received from the United States to be distributed in Monte Cristy, Santiago, Puerta Plata, Sanchez, San Pedro de Macoris, and Santo Domingo.—The *Listin Diario*, a daily paper of Santo Domingo, states that the Cuban Senate has passed a bill providing for the establishment of a CUBAN LEGATION in the capital of the Dominican Republic.—The department of public instruction of the Government of France recently appointed Dr. Luis Manuel Betances, a Dominican citizen, head of the MEDICAL LABORATORY of the University of Paris. Dr. Betances, who has specialized in Paris for a number of years, published in the *Revue Generale de Clinique et Therapeutique* of April 15, 1916, an article which attracted the attention of the most noted physicians of France.

—In July, 1916, the Dominican CENTRAL RAILWAY was reopened to public traffic under the direction of Messrs. Van Blarcom and Collins, the former an American civil engineer and the latter an experienced American railroad man. The road is to be thoroughly repaired, properly equipped and operated after the manner of well-managed railways in the United States. The congestion of freight at Santiago, Moca, and other points will shortly be relieved, and the reopening and operation of the line will greatly benefit the commerce of these places and that of the surrounding country. The MATCH FACTORY belonging to Ariza & Co. in Puerto Plata, which was temporarily closed in June last, renewed operations on July 3 of the present year. — Bids were recently opened by the Department of Public Works for the construction of a WHARF and concrete approach at Puerto Plata. There were five contestants, the contract being awarded to the lowest bidder, the Leonard Construction

Co., for the sum of \$115,880. The highest bid was for \$184,775.—Press reports state that WIRELESS telegraph stations are soon to be erected at Manzanillo, Puerto Plata, and Samana.—A new daily NEWSPAPER, directed and edited by Lorenzo Despradel and Arquimides Cruz A. is soon to be started in the city of Santo Domingo.

ECUADOR

The BUDGET prepared by the Treasury Department of the Government of Ecuador and submitted to Congress estimates the receipts for 1916 at 15,536,327 sucres (sucre = \$0.4867). The total public debt of Ecuador is given as 43,142,392 sucres. The old foreign debt was converted into 4 per cent interest-bearing and 1 per cent amortization bonds called "Bonos condores," or gold bonds of the Guayaquil & Quito Railway. This debt amounted at the time the budget was submitted to 722,000 sucres. The internal debt of the Republic is 11,000,000 sucres, so that the foreign debt of Ecuador is, in round numbers, 32,000,000 sucres. In Ecuador paper money is issued by the banks, which are obligated to redeem same in gold at sight at the rate of 24d. per sucre. The gold monetary unit of Ecuador is the condor, which is equal in weight and fineness to the pound sterling, and has a value of 10 sucres. The Bank of Ecuador, which has a circulation of 3,000,000 sucres in bank notes, maintains in its vaults 2,000,000 sucres in gold coin, and has a reserve fund of 1,130,000 sucres.—In 1915 the shipments of CACAO from Bahia de Caraquez to Guayaquil amounted to 376,000 pounds. In May, 1916, these shipments aggregated 17,500 pounds. The exports of cacao from Guayaquil to the United States in 1915 amounted to 32,506,621 pounds, valued at \$4,247,813, as compared with 23,099,199 pounds in 1914, valued at \$2,605,340.—Ecuador, with an approximate population of 2,000,000 inhabitants, is one of the South American Republics which is making very rapid strides in the development of EDUCATION. About 2,000,000 sucres, or 12 per cent of the annual budget, is used for educational purposes.—The SUGAR CANE plantations of Ecuador manufacture annually about 7,000 tons of sugar, which quantity could be easily doubled by increasing the acreage of the sugar-cane plantations of the country.—The following PETROLEUM lands, consisting of 20 claims each, situated in the Canton of Santa Elena, were sold at auction on June 26, 1916: Transval, San Carlos, Matilde, Pepa, El Porvenir, San Miguel, Huancabilea, La India Kil, Indio Guayas, and Betina.—The Vicente Rocafuerte College at Quito has recently established a CHAIR OF GEOGRAPHY.—The SPORT CLUB of America, in the capital of the Republic, has elected the following officers:

Alejandro Cevallos, president; José Sandoval, vice president; Alfonso Alvarez, treasurer; and Carlos Salazar, secretary.—Information received from the city of Bahia is to the effect that the public HIGHWAY known as the "Camina de la Playa" (the beach road) will soon be completed and carriage and automobile traffic established between that city and Manabi. The construction of this road was largely due to the initiative and energy of the governor, or jefe político, of the Canton of Sucre.—The provincial legislature of Manabi, complying with the request of Gov. Espinel, has set aside 5,000 sucres for the SANITATION of the city of Manabi. The sanitary bureau of Guayaquil is cooperating with the authorities of Manabi in this work by furnishing in an advisory capacity one of its most experienced members.—The society of JURIDIC STUDIES in Quito has elected José Roberto Paez, president; César Barriga, vice president; Carlos Pastor, secretary; and Eduardo Salazar Gómez, treasurer.—A recent decree of the Peruvian Government permits the SHIPMENT OF FRUIT from Guayaquil, Ecuador, to Paíta, Peru, from June to November, inclusive, on the lower and upper decks of vessels when said fruit is packed in such a manner as to prevent the entrance of mosquitoes. From December to May, inclusive, fruit shipments, when properly packed, will only be allowed on the lower decks.—Dr. Juan Guiteras, chairman of a committee appointed by the Rockefeller Foundation to visit tropical countries and report upon HEALTH CONDITIONS, was recently in Guayaquil investigating the endemic diseases of that city.



GUATEMALA

A report of the Secretary of Promotion (Fomento) of the Government of Guatemala for 1915 states that a new industry is being developed in the Republic—the preparation and exportation of canned and PRESERVED FRUITS to the United States. Two canning factories are at present in operation in the country, and the indications are that a rapid development of this industry is soon to take place in Guatemala.—In 1915 a trial shipment of specially fed BEEF CATTLE was made to the United States, and the result obtained was so favorable that it is thought that other shipments of the same kind will soon follow, and that a special feature of the cattle industry in Guatemala in future will be the breeding and fattening of beef cattle for North American markets. — A TUBER known as "Malanga," similar to the Irish potato, is being cultivated in different parts of the Republic, and especially in the department of

Izabal and on the Pacific coast. This root is said to be more easily grown than the potato, is less subject to disease pests, and compares favorably with the potato in yield, quality, and food value.—In 1915 Guatemala produced 253,416 quintals (quintal=about 101 pounds) of refined SUGAR, 558,193 quintals of panela or brown sugar in cakes, and 38,391 quintals of coarse granulated sugar. The sugar factories also had an output of 185,054 quintals of molasses. After using these products to meet the local demand for consumption and the manufacture of alcohol, a small surplus remained for export.—The production of BANANAS in the Republic in 1915 aggregated 8,217,000 bunches, 3,217,000 of which were exported. During the same year the harvest of BEANS amounted to 180,000 quintals; that of wheat to 270,000 quintals; rice, 236,832 quintals, and potatoes 125,394 quintals. The yield of some of the other staple agricultural products of Guatemala in 1915 was as follows: Lima beans, 21,041 quintals; yucca, 67,810 quintals; chick peas, 503 quintals; pepper, 5,643 quintals; peanuts, 1,109 quintals; and barley, 1,955 quintals.—At the close of 1915 there were in Guatemala 619,895 head of CATTLE; 116,278 horses; 383,124 sheep; 56,600 goats; and 102,531 hogs. During the same year the following products were exported from the country: MAHOGANY, 5,530,000 feet; chicle, 6,495 quintals; rubber, 2,067 quintals; tobacco, 5,601 quintals; cotton, 541 quintals; annatto, 60 quintals; and other fibers, 76,793 quintals.—In 1915 there were 56 MINING denouncements in the Republic, 39 of which were in the department of Chiquimula, 9 in that of Huehuetenango, 3 in the department of Guatemala, 3 in Baja Verapaz, and 2 in the department of Santa Rosa. The exports of ores of all kinds during the year referred to aggregated 1,001,458 pounds. Considerable activity was shown in 1915 in working the talcum and mica deposits of the country, the rise in price of these substances in the United States having greatly stimulated the development of this branch of the mining industry. The Nueve Cerros salt deposits in the department of Alta Verapaz produced 200 quintals of salt in 1915. The San Joaquin silver-lead mine was productive during the year in question, and work was carried on in the department of Huehuetenango in the Tolon mines and in the mines operated by G. B. West & Co. The Socorro, Evelún, and Elena gold mines in the vicinity of La Canea were developed during the year and arrangements made for increased development in 1916. The Guatemala Mining & Development Co., which has 39 properties, confined their efforts during the year principally to the conservation of their mines. Gold placer mining was carried on by the Franklin Exploration Co. in the departments of Progreso and Guatemala, and a considerable quantity of gold nuggets weighing from 1 to 1½ grams each were obtained. The rich Adela

and San Jacinto placers in the department of Izabel produced during nine months of last year 580 ounces of gold dust valued at \$10,400. The Rosario, Ocates, and Magdalena copper and silver mines, situated in the department of Santa Rosa, extracted a considerable quantity of ore which is being held for treatment.



HAITI

In accordance with the decree of April 5, 1916, concerning changes in the national constitution, an executive decree of June 23 convokes a NATIONAL CONSTITUTIONAL ASSEMBLY composed of representatives of the people, to meet in Port au Prince on August 14 next.—A recent decree of the Ministry of Finance provides that all POSTAGE STAMPS of the 1914 issue bearing busts of Oreste Zamor, Tanerède Auguste, and the national coat of arms, be surcharged with a special device under the direction of a committee appointed to supervise the work. Stamps of the denomination of 15 centimes gold will be discontinued and all others of the 1914 issue not bearing the authorized surcharge will have no franking power.—The railway management operating the TRAM AND RAILWAY lines entitled "Compagnie des Chemins de Fer de la Plaine du Cul-de-Sac" has just published a report showing that the total receipts of these enterprises during the second half of 1915 were \$952.29 gold and 164,840 gourdes (gold gourde=\$0.9647), distributed as follows: Port au Prince tramways, 27,464 gourdes; Bizoton to Carrefour Tramway, 48,445 gourdes; Cul-de-Sac Railway, \$700.94 gold and 38,955 gourdes; Carrefour to Léogane line, \$160 gold and 48,983 gourdes; and miscellaneous receipts, \$91.35 gold and 991 gourdes.—"Le Nouvelliste" announces that the Government will shortly begin repair and construction work on the PUBLIC HIGHWAYS as material ordered from the United States for that purpose has already arrived. The work will be under the direction of the National Gendarmerie.—An executive decree of June 15 modifies that of April 27, 1903, relative to the PASSING OF EXAMINATIONS in the secondary schools by boys and girls. In future, no pupil can enter an advanced class without having satisfactorily passed an oral and written examination on all subjects of the class immediately preceding. The examinations will be held in the first fortnight of July of each year and will be conducted by the director of the school and professors of classes to which admission is desired. No student will be advanced to a higher class who does not obtain an average grade of 50 per cent in all subjects of the class to which he belongs. Those who fail in the July examinations can try again in October at the beginning of the new school year.—In its issue of June 15 Le Nouvelliste of Port au Prince

published the rules and regulations for admission of students to the PREPARATORY SCHOOL and for securing the Bachelor's degree. An outline was also given of the courses offered in the School of Applied Sciences and Modern Languages, which was recently founded in the Capital City by a group of college men interested in higher instruction.—A new monthly review entitled "Revue Littéraire et Scientifique" is now being published in Jérémie under the direction of Walter Sansaricq, and another publication is soon to appear at Port au Prince under the title of "Le Messager de l'Oeuvre," which will be the official organ of the Welfare Association, of which Monsieur Horatius Laventure is president.—The municipal council of Port au Prince has recently changed the name of the street called Central Street to HAMERTON KILLICK STREET in honor of the distinguished Haitian of that name.—Le Matin, a newspaper of Port au Prince, announces that a modern system of ELECTRIC TRAMWAY SERVICE will soon be in operation in the capital.



HONDURAS

In 1915 there were 62,218 head of cattle, 31,525 hogs, and 140 wethers killed in the slaughterhouses of the Republic. The abundance of pasture lands and the ease with which cattle multiply in the stock zones of the country makes it particularly adapted to the successful operation of the FROZEN MEAT INDUSTRY, both to meet the demands of home consumption and for export. Congress has been petitioned a number of times for concessions authorizing the establishment of this industry in various parts of the Republic, and especially in the coast section which is tributary to the Caribbean Sea. A number of these proposed concessions are still pending the action of Congress, and some of them, according to press reports, are apt to be favorably considered in the near future and this new industry started in the country.—The Pabellón Latino, an important daily newspaper published at La Ceiba, states in a recent editorial that the Government of Honduras will establish an AGRICULTURAL SCHOOL at El Tocantin, a place about 4 kilometers (2.48 miles) from the National Capital, and recommends that in due course, as the needs of the country may require, other similar schools be opened in the Republic and conducted in such a way as to prepare intelligent and practical farmers for work in developing the agricultural resources of the country along the most scientific and approved lines, and especially in all that relates to the successful growing of cereals, grasses, fruits, and vegetables, without neglecting or overlooking stock-raising, dairying, and allied industries.—According to the Revista Comercial (Com-

mercial Review) of La Ceiba, department of Atlantida, the board of trade of Cortes has appointed a committee, consisting of Juan R. Lopez, chairman; W. E. Coleman, vice chairman; and M. C. Bueso, secretary, to confer with the board of trade of La Ceiba for the purpose of discussing in a general way matters of mutual interest, and more particularly the question of obtaining a better banking RATE OF EXCHANGE on New York, New Orleans, and other commercial centers of the United States.—The Los Angeles aguardiente or CANE ALCOHOL factory, situated about three leagues to the west of the city of Danli, department of El Paraiso, exhibited a sample of its aguardiente at the San Francisco Exposition and was awarded a gold medal on same. This plantation is in one of the most fertile and best sugar growing sections of the country, and everywhere in this region are lands which could be developed by the judicious use of capital and machinery so as to produce large quantities of sugar cane, fruits, tobacco, and other agricultural products.—El Cronista, a daily newspaper of Tegucigalpa, states that Santiago Chavez has been appointed CONSUL of Honduras in New Orleans, vice Celeo Davila, resigned.—An examination by the treasury department of the ATLANTIDA BANK at La Ceiba showed that on May 27 last that institution had coin on hand amounting to 217,600 pesos (Peso—\$0.3537), and bank bills in circulation aggregating a value of 123,000 pesos.—The steamer *Tegucigalpa* recently sailed from the port of La Ceiba for New Orleans with a cargo of 64,824 bunches of BANANAS, 25,765 of which originated in Honduras, and 39,059 bunches in other Central American countries.—The HOSPITAL at Tegucigalpa has monthly expenses amounting to 600 pesos. The capacity of the institution is 100 patients.—The HIGHWAY from Lake Yojoa, which will connect Ulua and Potrerillos with the National Railway, is estimated to cost \$300,000.—The estimated value of the TELA RAILWAY is \$3,000,000, American gold. The company has 150 kilometers (93.2) miles) of track, operates 100 telephones, and has a hospital valued at \$200,000. The concrete wharf at Puerto Tela is 800 feet long.—A patriotic ENTERTAINMENT in honor of the one hundred and fortieth anniversary of American Independence was given in the American Legation at Tegucigalpa on the evening of July 4 last by Willing Spencer, chargé d'affaires of the United States. Through the courtesy of the Chief Executive the national band participated in the ceremonies, playing the Star Spangled Banner, the national anthem of Honduras, and other appropriate selections. The President, members of the cabinet, high officials of the Government, the diplomatic and consular corps, and other distinguished personages were present, and the affair was a most successful and enjoyable one.

MEXICO

The governor of the State of Coahuila has issued a decree requiring the payment of a monthly tax of from 600 to 1,600 pesos, according to the size of the establishment, by manufacturers of **ALCOHOLIC BEVERAGES**, and from 200 to 1,200 pesos monthly by manufacturers of wines. Establishments which sell alcoholic beverages, wines, pulque and beer, are also subject to monthly taxes varying from 200 to 1,200 pesos.—The Constitutionalist Government has acquired in different parts of the Federal Capital eight **MILLS FOR GRINDING CORN** with the object of furnishing at cost corn meal and masa (dough from which tortillas are made) to families in need of same for daily consumption, and especially to the poor. At the time of taking over these mills the Government obtained a supply of corn for grinding, and, according to newspaper reports, should it be necessary for the protection of the public the authorities will confiscate corn stored by individuals for speculative purposes.—The governor of Chihuahua has organized in the State capital a **CO-OPERATIVE SOCIETY** for furnishing supplies to the public under the protection of the Commonwealth government. The capital of the society is 200,000 pesos, which may be increased to meet the demands of the business. The headquarters of the organization is in the city of Chihuahua, but branches are to be established in the principal towns and mining camps of the State. Shares will be sold to individuals but the State government will own the majority of the stock of the company, thereby giving it a controlling interest at all times in the business of the concern.—On July 3 last the **NATIONAL SCHOOL OF TELEGRAPHY** in the city of Mexico opened its courses to pupils of both sexes qualified for entrance and possessing a certificate showing that they had completed the primary course required. The course is for two years and graduates will be given work in the offices of the Government telegraph lines.—Emile S. Brus has been appointed **CONSUL** of Mexico in Kansas City, Mo., to take the place of J. Dancinger, resigned.—According to a Sinaloa paper the Elisa Mining Co. proposes to establish a large **SMELTER** at San Blas station under the management of Alfredo Horne. The mines of the company are situated in the Mocorito district.—Machinery for the manufacture of **BOOTS AND SHOES** on a small scale, and an engine to run the same; all of which was purchased in the United States, was recently installed by Victoriano Romero in Mazatlan.—Reports from Guanajuato, one of the richest mineral districts of Mexico, state that the owners of La Luz mine of that city have discovered a vein of **AURIFEROUS ORE** assaying a gold value of nearly \$1,000 per ton.—The exports of **PETROLEUM**

from Tampico in March last aggregated 1,383,978 barrels, all of which, with the exception of 98,150 barrels shipped to Rio de Janeiro, went to the United States.—According to press reports American capitalists propose to invest \$10,000,000 in HENEQUEN cultivation in Yucatan.—A new domestic POSTAL TARIFF has been put into effect by the Constitutionalist Government. Under this tariff letters are carried to any part of Mexico at the rate of 20 centavos per gram or fraction thereof.—The legislature of the State of Coahuila has enacted a law requiring the owners of houses in Saltillo, the capital of that Commonwealth, to provide WATER AND DRAINAGE in dwelling houses and prescribing a severe penalty for a failure to do so.—The State of Guanajuato has six NORMAL SCHOOLS located in the following districts: Irapuato, Penjamo, Acambaro, Celaya, Leon, and Guanajuato.

NICARAGUA

The total FOREIGN COMMERCE of Nicaragua for 1915, according to the report of the collector general of Nicaraguan customs, amounted to \$7,726,421, of which \$3,159,220 represented imports and \$4,567,201 exports. In 1914, according to the same report, the imports were \$4,134,323, and the exports \$4,955,050, or a total of \$9,089,373. The decline in the foreign trade of Nicaragua in 1915, as compared with 1914, is due to the effects of the European war. Formerly the bulk of the coffee exports of the Republic went to Germany and France, but at the present time the shipments of this product to Germany has ceased and France is buying less than half of the quantity taken in normal times.—The ATLANTIC RAILROAD contract, which was ratified by Congress on June 17, 1916, specifies that the work shall be completed within four years and that the survey of the right of way shall commence immediately. The road will run north of Lake Managua. A party of surveyors left the capital of the Republic during the latter part of June, 1916, for Momotombo to select the route and map out the survey. The construction of this road is of the utmost importance to the east coast of the country, and a great increase in the volume of foreign and domestic trade is expected when the line is completed and opened to traffic.—The NATIONAL BANK of Nicaragua, incorporated, of which James Brown, of Brown Bros. & Co., New York, is president, and Albert Strauss, of the firm of J. & W. Seligman & Co., New York, is secretary, has its principal office in Managua, with branch offices at Granada, Leon, and Bluefields.—The Mexican Government has inquired of the Government of Nicaragua whether the appointment of Salvador Martínez Alomia as MINISTER of that country near the

Government of Nicaragua would be satisfactory to the latter, and has received an affirmative answer.—The ARCHBISHOPRIC of Nicaragua in Managua has been removed to a two-story edifice opposite the National Palace. The building formerly used as the archbishop's residence is to be used as an office by the department of the interior.—A company with a capital of \$20,000 has been organized in Bluefields to take over and enlarge the Santa Rosa DISTILLERY which has been in operation for a number of years and whose present capacity is insufficient to produce an output large enough to meet the demands of its trade. A 1,500-liter Deroy distilling apparatus, a 10-horsepower boiler, copper coils, fermentation and storage tanks, air compressor and pure yeast outfit, together with other accessories, have been ordered from the United States and France.—On June 18, 1916, a NATIONAL CONVENTION composed of 332 delegates of the party known as "Friends of the Government" met at Managua and nominated Carlos Cuadra Pasos, President of the Republic. The term of office of President Adolfo Diaz, the present incumbent, expires on December 31, 1916. In Nicaragua the Chief Executive is elected for six years.—The Government of Nicaragua has subsidized two GASOLINE LAUNCHES to ply as carriers of mail between Bluefields and Greytown.—Preliminary steps have been taken toward organizing a BASEBALL LEAGUE in Nicaragua. Representatives of the board of charities of Managua, Granada, and Masaya, owners of the baseball parks in those cities, have invited the principal baseball teams of the Republic to arrange a schedule to be played throughout the year. At the end of the year it is proposed to hold competitive games by the two teams having the highest percentages during the season's record, the winning team to receive gold medals and a \$200 cash prize.—J. Scobey, managing director of La Luz & Los Angeles Mining Co., whose general offices are in Pittsburgh, Pa., recently inspected the Prinsapolka mining district and looked over the MINES. Mr. Hawxhurst, general manager of the Eden Mining Co., lately arrived on the east coast to take charge of the properties of the company.—The Government of Nicaragua is reconstructing the TELEGRAPH LINE from Bluefields to the Bluff under the supervision of Ulises Miranda.—In the English edition of the June, 1916, issue of the MONTHLY BULLETIN, an item appeared stating that Dr. Möller, a physician in charge of the Rockefeller Hookworm Bureau in Nicaragua, had solicited the aid of the public in exterminating mosquitoes, "which are reputed to be the cause of the malady." This statement was in error. Dr. D. M. Molloy is in charge of the Rockefeller Foundation in Nicaragua, and the hookworm disease is not transmitted by mosquitoes but by a parasite which enters the system, affects the blood, inflames the intestines, causes anemia, and debilitates the body in such a way as to predispose it to tuberculosis, typhoid fever, pneumonia, and malaria. Mr. John D. Rocke-

feller has donated altogether about \$100,000,000 to be used in the prevention and extermination of this terrible malady. Laboratories have been established in Guatemala, Nicaragua, Costa Rica, and the West Indies, as well as in several of the Southern States of the United States, for the purpose of preventing and curing the disease.



Aurelio Guardia, Secretary of the Treasury of the Republic of Panama, recently received bids for the operation and maintenance of the CHIRIQUI RAILROAD for a term of five years. Information is not at hand as to the result of these bids, but they were based on a deposit by the successful bidder of \$10,000, American gold, in the National Bank of Panama as a guarantee of the faithful performance of the conditions contained in the specifications submitted by the Government. Under these specifications the person or company contracting to maintain and operate the railway will be required to have a working capital of not less than \$100,000. The board of directors of the operating company is to be composed of the following persons: The Secretary of the Treasury of the Government of Panama, the Secretary of Fomento (promotion); the president, vice president, and auditor of the operating company; the manager of the National Bank, and a director appointed by the President of the Republic every two years. The operating company must build a modern hotel at Boquete, the construction and equipment of which shall not cost less than \$50,000. For the construction of this hotel the operating company may issue 7 per cent interest-bearing bonds guaranteed by the Panamanian Government and redeemable within 10 years. The regulations issued by the operating company for the management of the railroad must be approved by the Chief Executive. For the purpose of developing the zone through which the railroad passes, the operating company shall take such steps as may be required to attract the greatest possible number of immigrants to the country. An immigration office, under the direction of the Secretary of the Treasury of Panama, shall be maintained in the consulate of Panama in New York, at the expense of the company. The Government, whenever it deems proper, may cause the entire railroad to be inspected by its engineers. The company is authorized to make use of the national telegraph lines in matters relating to the operation and maintenance of the railroad. The maintenance and operating contract requires the approval of the President of the Republic in order to make it binding.—The *Revista de Instrucción Pública* (Review of Public Instruction) of Panama publishes an interesting article in Spanish on the PUBLIC HEALTH of the Republic by

Dr. L. W. Hackett, an American physician connected with the Canal Zone, in which he reviews in an able manner the health conditions of the country and shows the benefits of sanitation and proper living in exterminating and preventing the spread of contagious and infectious diseases.—Dr. Juan Ignacio Galvez, of Bogota, Colombia, founder of the Latin American INTELLECTUAL SOCIETY, of Santiago, Chile, recently visited the Isthmus en route to the capitals of the Central American Republics, where he proposes to organize branches of this society. On his return to Panama he expects to establish a branch of the organization in the national capital.—The joint land commission has rendered a decision awarding \$24,000 in payment for the ANCON HILL SUMMIT, in the Canal Zone, adjoining the city of Panama and overlooking the bay and Pacific terminus of the canal, to William Nelson and Delia Nelson de Boy, the owners of the land at the time the expropriation was made by the United States Government. The property in question contains an area of 64,000 square meters, and was originally valued by its owners at \$320,000.—The Panama press is agitating the question of making Porto Bello the capital of the Province of Colon. Should the Government decide to do this, a town will be laid out, public buildings erected, and arrangements made for the sanitation and growth of the new provincial capital.

PARAGUAY

In 1915 the department of POSTS AND TELEGRAPHS of the Government of Paraguay handled 5,803,071 pieces of mail, and 114,550 telegrams containing 3,344,359 words.—The total length of the RAILWAYS of Paraguay in April, 1916, was 3,105 kilometers.—The WIRELESS telegraph station at Encarnacion, which, in connection with the stations at Asuncion and Concepcion, completes the present wireless system of the Republic, was recently opened to traffic.—The section of cartography of the department of engineers of the Paraguayan Government will soon complete a statistical and geographic MAP of the country.—In 1915 the FOREIGN COMMERCE of Paraguay amounted to 8,022,060 gold pesos (gold peso = \$0.9648), consisting of imports 2,405,888, and exports 5,616,172. The imports of rice and sugar in 1915 amounted to 540,000 and 9,000 kilos, respectively.—During the last two years the department of fomento of the Government of Paraguay has surveyed and subdivided 100,000 hectares of PUBLIC LANDS in different parts of the country, most of which is now occupied by agricultural colonists. There were 653 applications for this land in 1915 from prospective settlers.—The Ypacarai AGRICULTURAL STA-

TION has 50 hectares of land in use for experimental purposes, the revenues from which during the past year amounted to 85,000 pesos. This station cooperates with the Agricultural Bank at Asuncion in the distribution of seeds to farmers.—The Paraguayan Government is at present engaged in the construction of PORT WORKS at Asuncion, Concepcion, Encarnacion, and Villeta, as well as in the erection of two bridges over the Mbaey and Caañabé Rivers on the road from Paraguari to Carapegeia.—In 1915 the TOBACCO inspection office of the Government received 78,821 bales of tobacco. The tobacco of Paraguay is of excellent quality, and much of it is grown from seeds obtained from Cuba, which accounts for its close resemblance to Cuban tobacco.—President Schaerer, in his message to Congress delivered in April last, states that the FOREIGN DEBT of the Republic on December 31, 1915, amounted to £1,153,503 and 68,227 Argentine gold pesos (gold peso = \$0.9648). The currency in circulation in Paraguay on the date mentioned was 115,000,000 pesos.—In 1915 there were 1,046 primary SCHOOLS in operation in the Republic, 529 of which were for males and 517 for females. The number of pupils enrolled in these schools was 74,245, of which 41,832 were males and 32,413 females. During the year, 15 teachers were graduated from the normal school at Asuncion, and 31 teachers from normal schools situated in other parts of the Republic. During the year referred to the secondary schools of the country had a teaching faculty of 51 persons.—The Government of Italy, through its legation in the National Capital, has given to the NATIONAL MUSEUM in Asuncion an artistic urn containing the remains of the Italian explorer and scientist, Guido Boggiani, who devoted his life to the study of the ethnography of the native races of Paraguay and to a compilation and description of the natural wealth of the country.—The WIRELESS TELEGRAPH SCHOOL, under the direction of the Department of War and Marine, which was established at Paraguari by the National Government for the purpose of training a corps of wireless operators for military service, graduated its first students in June last.—In accordance with a legislative decree a MILITARY SCHOOL was founded in the National Capital in April last. The course of study covers a period of three years.



The Peruvian Corporation recently completed at Puno, Peru, on Lake Titicaca, one of the largest DRY DOCKS on the west coast of South America. This was built in order to maintain the vessels of the company engaged in lake traffic in the best possible condition. The cost of the dry dock, in round numbers, was £11,000. One of

the vessels of this company, the *Coya*, plied between Peruvian and Bolivian Lake Titicaca ports 18 years without having its bottom cleaned, but at the expiration of that time an entire new bottom had to be substituted. Now that the dry dock has been completed and made ready for use, the vessels of the company, such, for instance, as *El Inca*, a boat weighing 700 tons when unloaded, can be drawn out of the water in half an hour and made ready for examination and repair of its bottom. The Peruvian company now has in active service on Lake Titicaca a fleet composed of the following vessels: The *Inca*, with 1,300 tons displacement; the *Coya*, with 800 tons; the *Yapura*, with 200 tons; the *Don Juan*, with 1,800 tons, and the *Desaguado*, with 1,800 tons displacement. All these vessels engage in freight and passenger traffic and connect with the Southern Railway of Peru and the Bolivian Railway.—New York capitalists have incorporated, under the laws of the State of Connecticut, the American Mercantile BANK of Peru. The entire capital of this institution is reported to be owned by the Mercantile Bank of the Americas, now doing business in Nicaragua, and which proposes to establish separate banks for each of the South and Central American countries in which it decides to operate. The headquarters in Peru of the American Mercantile Bank will be at Lima. The City National Bank of New York has taken steps to establish a branch at Lima similar to the one at Buenos Aires.—The Lima ATHENEUM has petitioned the Government for a building adequate to the needs of the association which contemplates including university extension work in its activities. Dr. Mariano H. Cornejo, a noted literary man, is president of the Atheneum.—The Government of Peru has made an agreement with the principal sugar manufacturers of the Republic to purchase brown SUGAR, for sale to consumers, at the wholesale export market price, less the export duty. The sugar consumed in Peru in 1915 represented about 12.5 per cent of the quantity exported.—The orders placed by Peruvian agriculturists for GUANO during the present year amounted to 55,000 tons. In order to supply this quantity the Government has authorized the working of the deposits at Chincha Island, Balletas Island, Asia Islands, Pachacamac, Punta Negra, Palominos, and San Lorenzo. During the breeding season vessels are prohibited by the Peruvian Government from approaching within less than a mile of many of the guano-producing islands without a special permit. Many of the laborers used in this work are brought from Pisco and nearby coast towns.—A recent executive decree requires graduate MIDWIVES licensed by the Government to reside in the capitals of the Provinces to which they are assigned, to give free service in the Government hospitals of the capitals of the Provinces, to make reports of births to the proper authorities, and to vaccinate infants born in hospitals or attended by them before dismissing the cases.—In response to

an offer of the Argentine Government to instruct a certain number of Peruvian young men in its AVIATION school, a competitive contest was held by the war department during the latter part of June, 1916, and two candidates, between the age of 20 and 25 years, selected from the lower officials of the army, were commissioned to take this instruction.—Part of the island of San Lorenzo, which lies opposite the town of Callao, has been set aside, under an executive decree, as a deposit for explosives.—The RICE crop of Peru for the present year is estimated at 450,000 sacks of 190 pounds each. This cereal is produced in the Eten, Pacasmayo, Chiclayo, Casma, and Chicama Valleys.—A well drilled at La Punta on the bay in the immediate vicinity of Callao gave a flow of fresh ARTESIAN WATER at a depth of 50 feet. La Punta, which is a popular summer and bathing resort convenient to the National Capital and the city of Callao proposes to obtain its potable water supply from artesian wells.

SALVADOR

The National Legislative Assembly of the Republic of Salvador has issued a decree declaring Gen. José Miguel Batres, Dr. Ramón García González, and Dr. Tomás García Palomo, respectively, first, second, and third DESIGNATES to the presidency of the Republic, in case of a vacancy, as prescribed by law.—A recent executive decree repeals the special duty of \$7, gold, per 100 kilos (220 pounds), gross weight, on exports of all grades of HIDES. This revives the duty of 15 pesos (\$5.25) and \$5, gold, respectively, imposed by decrees, of March 21 and April 10, 1914.—The municipal board of San Salvador has authorized a special committee to take charge of the construction of the new MUNICIPAL MARKET BUILDING which is to be erected in the Plazuela de Carretas of the Federal Capital in accordance with plans furnished the municipality.—Early in June last the Bank of Salvador received a remittance from the United States of \$125,000 American gold in gold coin of the denominations of \$5 and \$10 each. This money will be stored in the vaults of the bank to increase the reserve fund which guarantees the circulation of the bank notes of that institution.—According to a recent executive decree the road from San Pedro Masahuat to the city of San Salvador is made a NATIONAL HIGHWAY and is opened to public traffic.—Work was commenced on the construction of the section of 35 kilometers (21.7 miles) of roadway which connects Zacatecoluca Junction with Molineros. The latter place is 56 kilometers (34.7 miles) from the Federal Capital and is connected therewith by a good road. The trip between the two places just mentioned can be made in automobile in about two hours.—The Secretary of the

Treasury of the Government of Salvador has arranged with the Pacific Steam Navigation Co. to extend its service to Salvadorean ports and to carry the mails of that Republic. For the present only the Acajutla and Salvador steamers will be engaged in this service, but it is planned in the near future to add a larger steamer to this fleet.—Congress has reduced to 1 cent gold per kilo (2.2 pounds), gross weight, the former duty of 5 cents, gold, on EMPTY BOTTLES imported into the country during the continuance of the European war or until a factory for the manufacture of bottles is established in the Republic.—Congress has passed a law assessing a fine on persons, companies, and corporations which do not comply with provisions of article 1 of the law of April 23, 1900, concerning the importation of MERCHANDISE classified in the free list.—The legislative assembly of the Republic of Salvador has authorized Rafael Guirola Duke to discharge the functions of MINISTER RESIDENT of Costa Rica near the Government of Salvador.—The Western Railway is having a PETROLEUM TANK constructed with a capacity of 1,500,000 gallons of oil for the exclusive use of the railway company.—Apastapeque, a town of 6,000 inhabitants situated in the department of San Vicente, has been raised to the rank of a city by the National Legislative Assembly. The new city, which was a village for 42 years, is in a rich agricultural region that produces corn, beans, sweet potatoes, sugar cane, and other tropical fruits. The town is noted locally for the celebrated Santa Rita MEDICINAL SPRINGS, the waters of which are said to have highly curative properties, especially in the treatment of skin diseases.



URUGUAY

Press reports state that negotiations are about to be concluded by the Government of Uruguay for the purchase of the commercial ELECTRIC TRAMWAY system of Montevideo which includes the following lines: Union and Maroñas, Buceo and Union, Este and Reducto, and Sayago and Colon, as well as the office building of the company on Rincon and Treinta y Tres Streets, the power houses and stations, the Pocitos Hotel, the lands of the company in Central Park, and other minor properties of an aggregate value of 12,000,000 pesos (Peso = \$1.0342). The commercial electric tramway company is closely connected with the Montevideo Electric United Tramway Co. of London, and is the largest street railway corporation in the Uruguayan capital, and probably the second English enterprise in importance in the Republic, ranking in Uruguayan English investments next in importance to the Central Uruguayan Railway Co.—An executive decree has been issued appointing Enrique F. Arco DIRECTOR OF CUSTOMS of the Government of Uruguay with headquarters in Montevideo.—A recent executive decree provides for the appointment of Dr. Claudio Williman, president of the BANK OF THE REPUBLIC, and designates as members of the board Dr. Scarpio del Castillo, Dr. Eduardo Acevedo, and Sr. Alfredo Labadie.—The National Rural Development Commission, in a report to the department of industry, estimates the value of the WHEAT, flax,

and oats crop of Uruguay at 8,000,000 pesos.—The President has promulgated a decree requiring veterinary inspectors to issue sanitary certificates daily, showing the condition of HIDES in slaughter and packing houses and other establishments where stock is killed, in order to insure the exports only of hides in a healthy and sanitary condition.—The Western Uruguay Railway, acceding to the petition of the National Rural Development Committee, has reduced the tariff RATES ON STOCK shipped on account of the drouth from one grazing zone to another.—In 1915 there were 395 TOBACCO plantations in operation in the Republic, 89 of which are in the department of Rivera and 306 in the department of Tacuarembó. During the year referred to these departments produced 1,065,195 kilos of tobacco. Uruguayan leaf tobacco for local consumption comes into strong competition with Brazilian and Paraguayan tobacco. While the tobacco lands of Uruguay are capable of producing a good yield, up to the present time little if anything has been done toward growing the plant from seeds imported from Cuba, as has lately been the custom in Brazil, Paraguay, and Argentina. The tobacco industry of the Republic is at present but little developed, but during the last two years conditions have been favorable to a more extended cultivation of this plant.—Dr. Latham Clarke, director of the Institute of Chemical Industry of Montevideo, was a delegate to the bibliographic and HISTORICAL CONGRESS held in Tucuman, Argentine Republic, in July last. Dr. Clarke represented Harvard University at the Congress referred to.—The ZABALA CANAL, the first canal to be planned in the Republic, had as its principal object the furnishing of potable water to the city of Montevideo. A bill was introduced into the Senate a few months ago providing for the extension of this canal, and authorizing its use for traffic and irrigation purposes. The length of the canal is to be 106 kilometers, and irrigation ditches are to branch from it at convenient points. The London syndicate in charge of the work is reported to have the necessary capital subscribed, and it is said that the machinery for excavating will be purchased in the United States. It is estimated that three years will be necessary to complete the canal.

VENEZUELA

The Diario Comercial, a daily newspaper of the city of Bolivar, comments on an AUTOMOBILE TRIP made in about 50 hours in an American machine from Caracas to Soledad, a distance, approximately, as the road runs, of 500 miles. As it is now easy to travel by automobile into this section of Venezuela, a great development of that part of the Republic, according to the paper referred to, is looked for within the next few years. The sale of automobiles during the present year has been very great in all parts of Venezuela where good roads abound. One automobile company is reported to have disposed of 50 machines on a short trip of its agent from Caracas to Soledad.—On June 24 last the eighty-fifth ANNIVERSARY of the Battle of Carabobo, which assured the independence of Venezuela, was celebrated throughout the Republic. The President has appointed Manuel Díaz Rodríguez MINISTER

OF FOMENTO (promotion), vice Dr. Santiago Santiveros, resigned.—An executive decree of June 5, 1916, authorizes the issue of 6,265,000 revenue and postage STAMPS.—The Perez Bonalde College in Caracas has added to its curriculum a practical COMMERCIAL COURSE for girls. The new department is under the direction of an experienced Venezuelan educator.—Drs. Marcelino Herrera and G. Arreaza Alfaro represented the Government of Venezuela in the CHILDREN'S CONGRESS which was held in Buenos Aires in July, 1916.—According to a report of the Treasury Department the INTERNAL REVENUE of Venezuela for the second half of 1915 was 11,452,980 bolivares (1 bolivar=\$0.193). During the fiscal year 1914-15 this revenue amounted to 19,942,415 bolivares, as compared with 16,136,845 bolivares during the fiscal year 1913-14, and 14,640,617 bolivares during the fiscal year 1912-13.—The Executive Power has decreed that bonds of the third series of the international internal 3 per cent CONSOLIDATED DEBT, issued to renew bonds of that debt presented for exchange prior to March 31, 1916, shall be delivered with all of the 60 interest coupons which have accrued from October 1, 1915, provided the parties in interest prove that the bonds presented for renewal come from holders residing in Europe. The concession to which said decree refers is valid until six months after the termination of the European war. This action is taken by the Government of Venezuela because of the difficulty experienced by European holders of the bonds representing this debt in sending same to Caracas for renewal.—A law of the National Congress authorizes the President to take such steps as may be necessary for transferring the remains of Col. Agustin Codazzi, an eminent VENEZUELAN PATRIOT, from the church in the city of Valencia, where they now rest, to the National Cemetery in Caracas, in compliance with the provisions of article 1 of executive decree of February 11, 1876. Col. Codazzi was the author of physical, political, ethnographical, and geographic maps of Venezuela, and was the founder of the first colony of immigrants who settled in the valleys of Aragua.—A law of the National Congress of June 5, 1916, provides for the construction of various public buildings and the enlargement of the MILITARY DRILLING GROUNDS contiguous to the National Hippodrome in Caracas, as recommended by the President in his message to Congress of June 4 last.—An order of the department of foreign relations establishes two Venezuelan CONSULATES in the United States, one at Los Angeles and another at Newport News, Va. James M. Sheridan and R. Baldwin Myers, respectively, have been appointed to these posts. A vice consulate has also been established at Buenos Aires, Argentine Republic, and Luis Sanson y de Leon has been placed in charge of the same.—The joint-stock company which was organized some time ago at Coro for the erection and operation of an ELECTRIC light and power plant in that town has just completed the installation. The plant is one of the best arranged and equipped electric installations in the Republic.—Carlos J. Liévano and Ernesto Sifontes have been appointed, respectively, chiefs of the WEATHER BUREAU at Calabozo and Ciudad Bolivar.



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SEPTEMBER • • • • • 1916

BULLETIN OF THE PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁNES, ASSISTANT DIRECTOR.



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¹Absent.





Photograph by Harris-Ewing.

SR. DON RAMÓN M. VALDÉS.

President-elect of the Republic of Panama, who will be inaugurated on October 1, 1916.



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THE AMERICAN-MEXICAN JOINT COMMISSION.

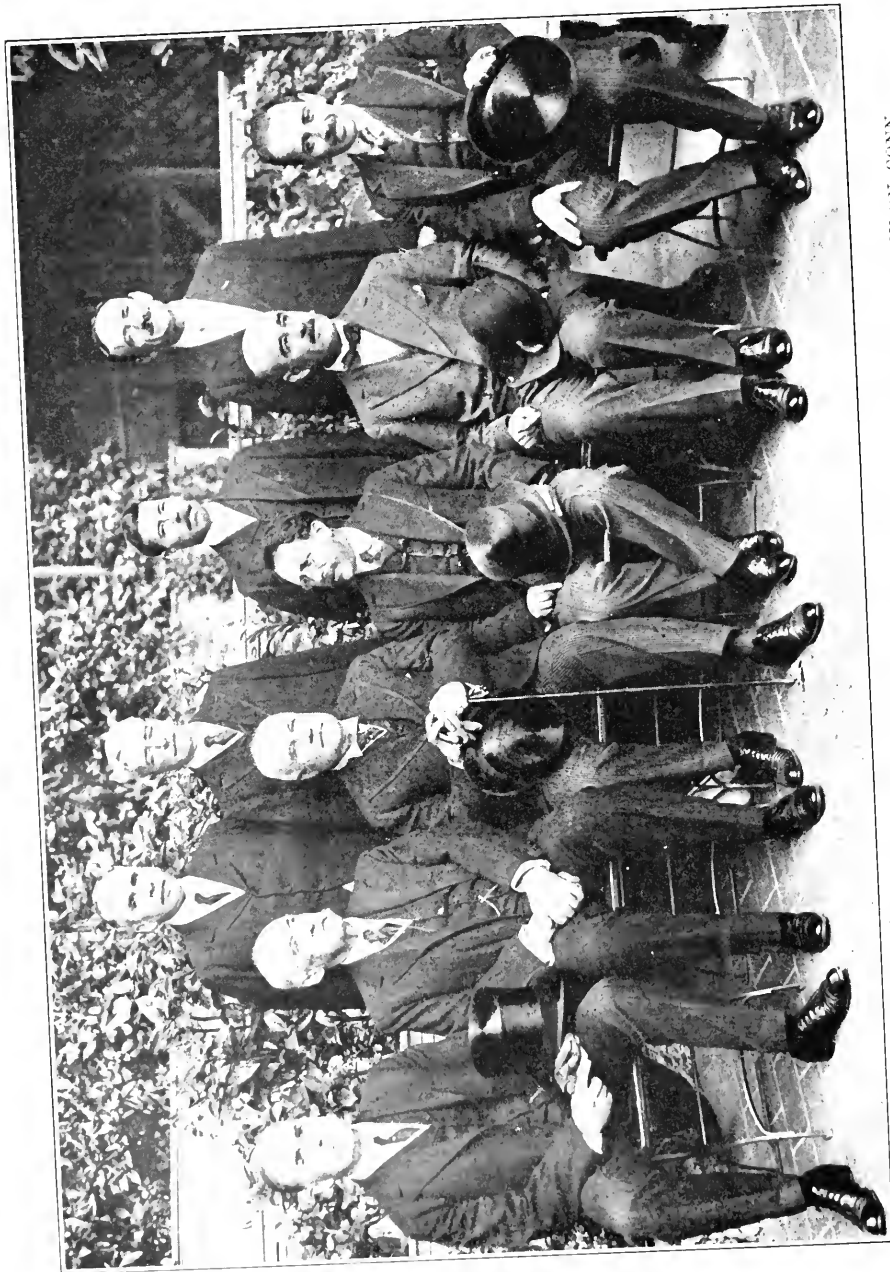
PRIOR to the formal sessions of the American-Mexican Joint Commission which commenced on Wednesday, September 6, 1916, at the Hotel Griswold, in New London, Conn., the members of the Commission were guests at a luncheon tendered in their honor at the Hotel Biltmore, in New York City, on September 4. Secretary of State Lansing officially welcomed the visiting members and addressed the following remarks to the commission:

GENTLEMEN: It is a great pleasure to me to be present at this first assembling of the American-Mexican Joint Commission, which so clearly manifests to the world the spirit of good will and mutual regard which animates the Republics of America in the settlement of their controversies. It is not only a pleasure but an honor for me to tender to you on behalf of the President and Government of the United States greetings on this auspicious occasion and a hearty welcome to the commissioners of Mexico, who have come so far to participate in these sessions.

With the pleasure and satisfaction of being here to-day there is also a full realization of the difficulty of the task which lies before you. It is no easy matter to reach an agreement as to the complex subjects of mutual interest to our two countries and to find a way which will satisfy not only the two Governments but also the peoples of the two nations. I believe that you, gentlemen, share with me the sincere desire to find that way and to bring the United States and Mexico into more complete accord by a just appreciation of the many domestic as well as international problems which each Government has had to face in these troublous times.

I need not assure you that my Government has been inspired throughout the past three years with a sincere desire to arrange in an amicable way the numerous questions which have arisen as a result of the civil strife which has shaken the Mexican Republic to its very foundations and has caused so much loss of life and property, so much suffering and privation. We have watched the progress of the revolution with anxious solicitude, we have tried to be fair in judgment and to see things from the point of view of those who control the destinies of Mexico; we have sought to be patient and to await the time when the approach of peace and order in Mexico would offer favorable opportunity for the adjustment of our difficulties, from first to last we have kept our minds free from rancor and bitterness and prejudice, and have in a spirit of disinterested friendliness confidently expected that the day would come when the representatives of the two countries could meet and calmly and frankly discuss our international relations.

That day has at last arrived. The present conference is a realization of our expectation, and I look forward to its future accomplishment with assurance that it will



Photograph by Underwood & Underwood.
THE AMERICAN-MEXICAN JOINT COMMISSION, NOW HOLDING ITS SESSIONS AT NEW LONDON, CONN.
 Standing in the center are Secretary of State Robert Lansing and Dr. Eliseo Arredondo, Ambassador-designate of Mexico. On the extreme right is Prof. Leo S. Rowe, Secretary to the American Commissioners; on the extreme left is Mr. Stephen Bonsai. Seated, left to right: Dr. John R. Mott, Minister of Finance; Señor Ignacio Bonillas, Subsecretary of the Department of Communications; and Señor Alberto Pani, President of the Mexican National Railways, constituting the Mexican section of the Commission.

settle the questions which have been causes of irritation. Its success depends in large measure—I think that I may say, entirely—upon the spirit which you, the commissioners of both Governments, evince when you come to discuss the various phases in our relations. If this spirit is one of frankness, of trust, of sympathy, it requires no prophet's vision to foresee that you will succeed; and, if you succeed, you will have the satisfaction of knowing that you have performed an inestimable service to your countries. But, if suspicion, doubt, and aloofness mark your deliberations, you may expect to accomplish little and leave the two nations in the same tangle of misunderstandings and false judgments which I feel have been the chief reasons for our controversies in the past.

The responsibility rests with you, gentlemen. The burden is not a light one, but you have generously and patriotically assumed it in response to the call of your Governments. I am sure that the American commissioners, whom I know so well, and the Mexican commissioners, for whom I have high respect, knowing from others of their distinguished attainments, will show that consideration and patience which will bring you into harmony and agreement.

It is not my purpose to dwell upon the subjects which will be considered by the commission. The immediate subject and the immediate cause of your meeting here to-day is the situation along the international boundary. I believe that a temporary solution could be readily found, but the Government of the United States seeks a permanent, not a temporary, settlement of the difficulty, and I feel assured that the Government of Mexico desires nothing less. To reach such a settlement, one that will be lasting and sure, it will be necessary to go to the root of the matter, to consider international rights and duties, and to discuss the relation of the individual to the State as well as the relation of the State to the individual, subjects fundamental to social order and to the intercourse between enlightened governments.

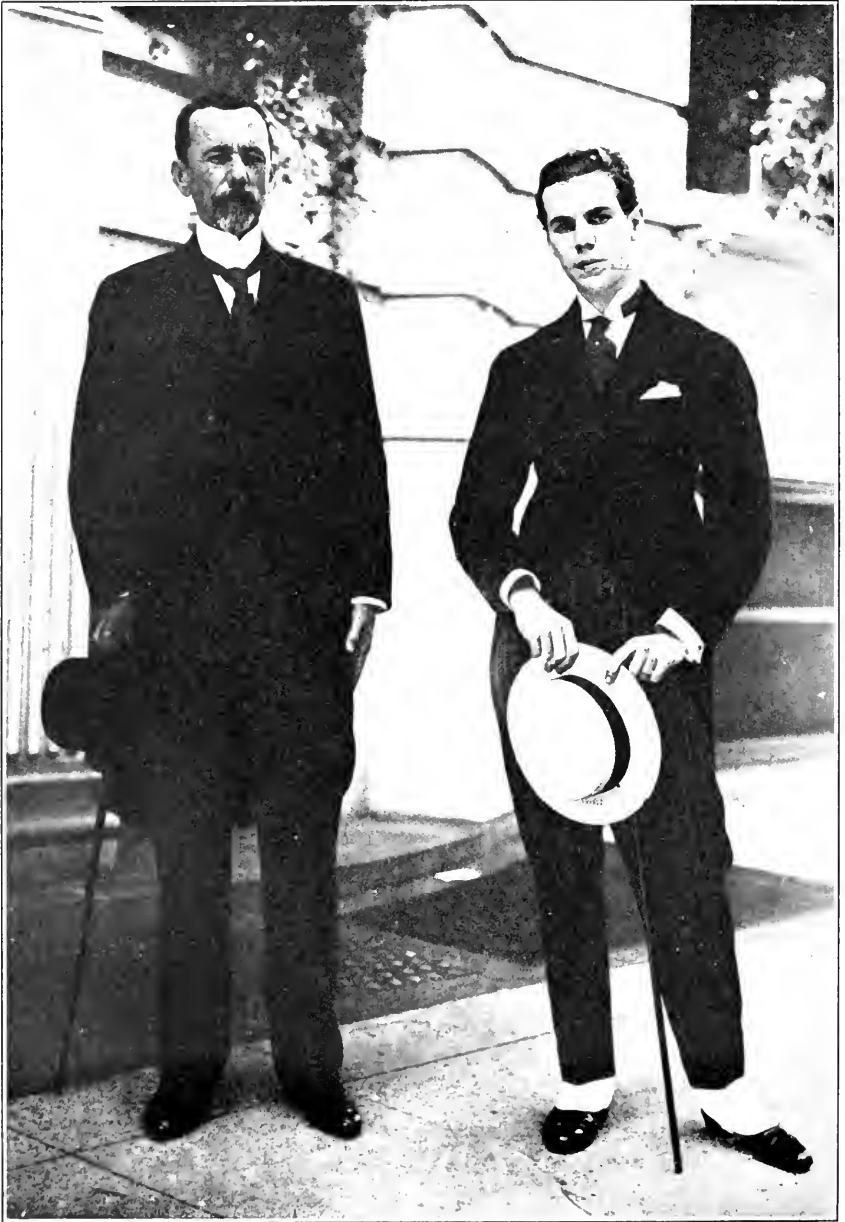
It seems to me that if you would reach a complete adjustment of the matters affecting our relations which will satisfy the future as well as the present you can not avoid considering the personal rights and economic interests of Americans who have found in Mexico a field for their energies. It is through the consideration of such subjects that the seeds of future controversy can be destroyed and entire confidence restored, so that the Mexican Government and people may build on the ruins of war and disorder a new and more lasting prosperity than the Republic has ever known, a prosperity founded on liberty and justice under a government supported by the united will of a free people.

This, gentlemen, I conceive to be your task; and I hope most earnestly that your sphere of discussion will widen as you meet from day to day, so that every obstacle, which has arisen or which might hereafter arise to vex the cordial relations of your Governments may be removed, and your two countries and their peoples may be drawn into a closer union cemented by friendship and good will and by that mutual respect for justice which should govern all nations in their intercourse with one another.

To the commission as a whole I look with confident hope that they will succeed in the great mission with which they have been charged, and I know that this hope is near to the hearts of the millions of Americans and Mexicans who are watching you to-day as you enter upon the performance of your duties.

Secretary of the Interior Lane, on behalf of the United States section of the Commission spoke as follows:

GENTLEMEN: We are here primarily to advise together as to the methods that shall be taken to protect that invisible line which is drawn between the United States and Mexico and is known to us as the Mexican border. National boundaries are natural things when they stand for differences in people, in forms of government, in traditions and in aspirations. They are unnatural when created alone by force. The border



Photograph by Harris-Ewing.

DR. LAURO S. MÜLLER, MINISTER OF FOREIGN AFFAIRS OF BRAZIL, AND HIS SON, LAURO MÜLLER, JR.

Dr. Müller, accompanied by his son and a secretary, spent the months of July, August, and September visiting in the United States. The minister came here for his health, and though his visit was unofficial, he nevertheless was shown a number of attentions by high officials in New York and Washington. Especially cordial were the courtesies extended to him by the many friends he made during his special mission in the summer of 1913.

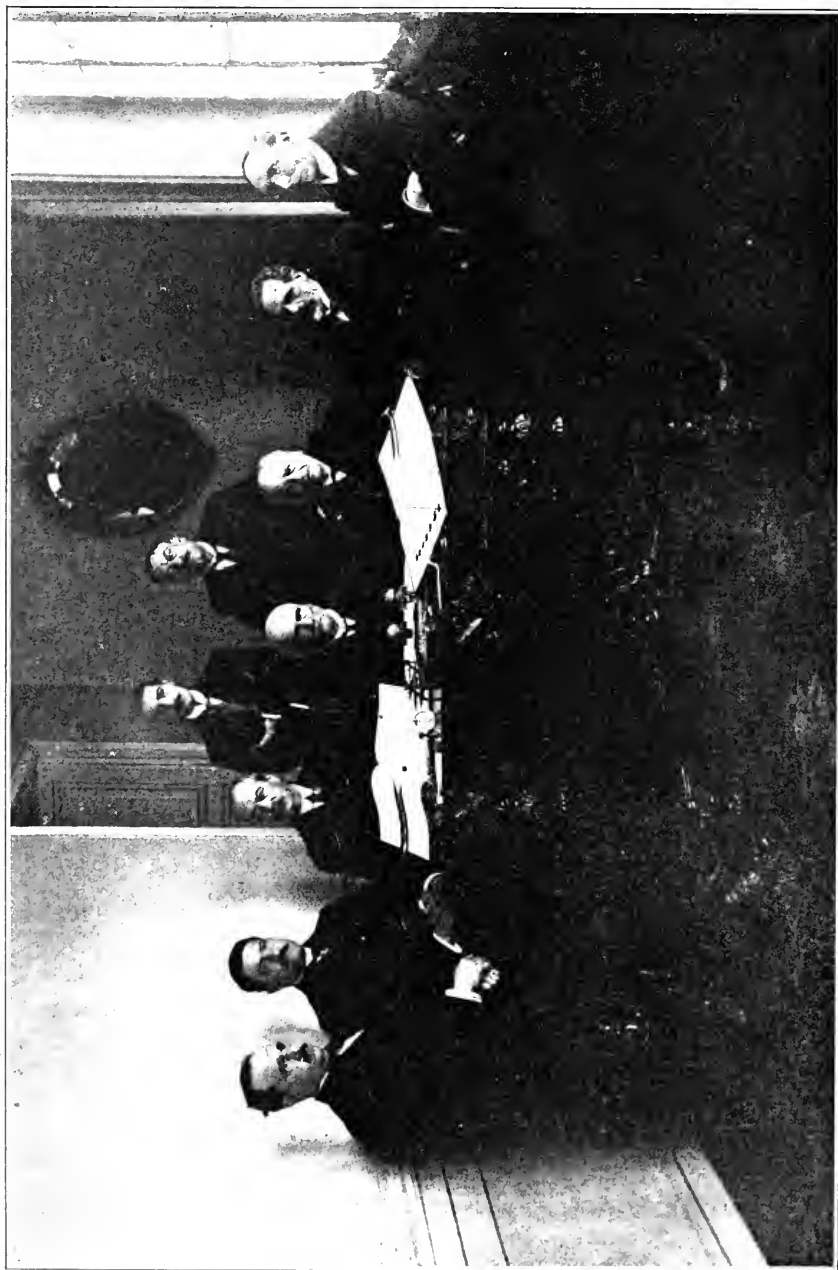
between our countries is one that has its justification in the distinctions that exist between your people and ours. This whole round world has been broken up and divided between the various families of men who make up mankind. You have your allotment, we have ours. And in the days of old there was no passing between. The one family was in hostility to all others, and nations in fencing themselves about not only protected themselves against intrusion from their enemies, but made it impossible to gain the many benefits which come from contact with different nationalities. This isolation is no longer possible. And nations to-day must learn and live by the standards of each other. That is the purpose of this conference, to let you know what lies this side of that border—not the mere physical strength or the political organization that constitutes the United States, but the spirit of our people and their attitude toward you, and in turn to learn from you what lies behind those troubles which have disturbed you, and which have given you such years of distress. We wish to learn your mind and your feeling, your purpose, and your conception of yourself in your relation to us and all the world. For we are to live together side by side, as neighbors, for all time. It is inconceivable that the conditions which now prevail shall obtain indefinitely or for any period. You do not wish it and neither do we. That border must become once again what for many years it was, a line of division between two peoples, each of which was working its own way toward the realization of the principles which we believe were laid down in that Declaration of Independence which was the foundation of our Constitution and of yours. Mexico has sent you as among her most distinguished sons to treat with us on practical matters in a practical fashion. I trust we shall not talk as theorists, but as men of affairs, of a large view, who wish for nothing but the honor and rights that are naturally ours by reason of the accepted principles which govern these great national families, and which ultimately come out of the consciences of fair-dealing men.

Our people have gone among you in confidence, and entered into the development of your country with an enthusiasm as great as that they have shown in the United States. Their lives and their fortunes are sacred to us, and wrongs done to them would react against you even though the United States never raised its hand nor sent a man across your border; for you are to live beside us always and the Mexican who does us wrong does a greater wrong to Mexico.

There is a large part of this country which has a traditional and sentimental attachment to Mexico. No name is more honored in our western history than that of Junipero Serra, explorer, teacher, padre, who brought with him from Mexico the vine and the fig, who turned the Indians into artisans and by irrigation first turned our deserts into fertile fields. You come fresh from a revolution not yet completed, which had its beginning long ago when the church bells of Dolores were rung by Hidalgo and the cry went up, "Long live America and down with bad government." Surely men of such traditions should meet with but one purpose—the welfare of the lands in which they live. My colleagues and I shall ask nothing from you save that which men can grant who respect the principles which you and your ancestors have fought for, and you can ask nothing from us for which your patriots fought that we will not be willing to grant. We say, let Mexico make herself in her own way. Let her people rise to the high dignity and power of which they are capable. As neighbors we will respect your rights. As neighbors we shall expect you to respect ours. Surely with those principles in their hearts six men can find a way to save the honor and interests of both Mexico and the United States.

In response to these addresses, Dr. Arredondo, the Ambassador designate of Mexico, made the following speech:

In the name of my Government and my own name I beg to express my appreciation of the delicate courtesy shown by His Excellency, Mr. Llanusa, to me, as a representative of the Delegates of the Mexican Commission, as well as to myself on the occasion of the preliminary meeting of the joint commissions.



SIGNING THE ECUADOR-COLOMBIAN BOUNDARY TREATY AT BOGOTÁ, COLOMBIA, JULY 15, 1916.

Seated, left to right: Carlos Adolfo Urueda, Antonio José Uribe, of the Committee of Foreign Relations of Colombia; Alberto Muñoz Vernaza, Envoy Extraordinary and Minister Plenipotentiary of Ecuador to Colombia; Marco Fidel Suárez, Minister of Foreign Relations of Colombia; Nicolás Esquerri, José M. González Valencia, and Hernando Holguín y Caro, of the Committee of Foreign Relations of Colombia. Standing, left to right: Alberto Muñoz Borrero, Secretary of the Legation of Ecuador at Bogotá, and Manuel Esquerri, Secretary of the Committee of Foreign Relations of Colombia.

It is to be hoped that the spirit of sympathy and cordiality exhibited at the first meeting between the members of both commissions, for which we are indebted to the hospitality and courtesy of Mr. Lansing, may prevail and preside over the sessions which are to take place in New London, in order that they be crowned with the success necessary to the welfare and happiness of both peoples.

This desire is favored and a happy outcome is promised by the high character, antecedents, and prestige of the distinguished gentlemen who form the American commission, especially because of their experience, their broadmindedness, and their advanced ideas respecting the freedom and progress of humanity. These lofty virtues coincide and are in keeping with the ideas and principles which inspire the Mexican commission, and are the same that the present Government of Mexico has at heart, which, as you all well know, has grown out of a revolution of the people in a legitimate aspiration toward the conquest of the principles of freedom and advancement.

It affords me pleasure to say to you that notwithstanding the many obstacles and inconveniences of another character we have met, I have always found in the Department of State the best will to reach a friendly solution for our international difficulties. From to-day on, the high and delicate mission is left in your hands, the result of which greatly concerns the two greatest countries in the continent and will exert deep influence in the welfare and destinies of America.

Gentlemen, I pledge you the success of the conference, as the same will mean a victory of justice and of the democratic principles significant of America.

Speaking in behalf of the Mexican members of the Commission, Señor Cabrera also responded as follows:

I consider it a very high honor to have known personally the honorable members of the American delegation, and to be able to inform them, in the names of my colleagues, Messrs. Bonillas, Pani, and Rojo, as well as in my own, how deeply indebted we feel toward them for their courteous attentions.

When I consider the task which we are about to undertake, I can not help being imbued with a certain sense of optimism. Everything points to success. For this there are sundry reasons, principally that the members who make up the American commission are so competent in knowledge and experience that they do honor to the United States.

As to ourselves, the Mexican commissioners, we must own that we have neither the competence, nor the knowledge, nor the experience, nor the wisdom of the American commissioners. We lack experience in public matters, and it is not to be expected that Mexico could produce such men, since, even five years ago, no one there had exercised the simple right to vote. However, though lacking such qualities, we do possess a certain direct pregnant knowledge of the needs of our country, and this knowledge we have acquired, not through theoretical information nor through books, but by our own experience, and because we have had occasion to feel what are the needs of the Mexican people by being in direct contact with them. The consciousness of the heavy responsibility which weighs upon us, and the good will and patriotism, which animate us, will be potent factors to insure the success of our conferences. We fully understand the great importance of these meetings, not only for the present but also for the future of our country, for, as Mr. Secretary Lane has said, we are two nations who must live forever in close proximity, since nature has placed us side by side, and we are obliged to live thus for a life much longer than that allotted to many nations. The consciousness of our great responsibility, our zeal and our patriotism, therefore make up for the deficiencies which afflict the Mexican commissioners.

For the rest, all seems to indicate that the success of these conferences is assured. The American people, in their great majority, do not wish to intervene in Mexico; the Mexican people is opposed in every way to a conflict with the people of the United States. The general tendencies, therefore, of the American people are the same as

those of the Mexican Nation, and the results earnestly sought by the Mexican commissioners are identical with those of the American commission. Moreover, the political principles of the American Democratic Government dovetail with the ideals pursued by the Constitutionalist Government. Even the enemies of peace and good understanding between both nations are the same. Our conferences, consequently, will not have the character of a discussion between antagonistic interests, but rather the character of cooperation, in order to reach a common aim. This harmony is seen in the nature of the notes exchanged between both State Departments with regard to these meetings, and we trust that this same spirit of frank cordiality observed in these notes will prevail throughout the conferences.

Everything points out, therefore, toward success. We must hope and believe in success, for it is indispensable for the well being of both countries.

Let me assure our American colleagues, while stretching their hand of welcome, that on our part we are truly animated with an earnest desire to work with them in order to lay the foundation of true peace and good understanding between Mexico and the United States.

I pledge you our heartfelt wishes for the welfare of the honorable Secretary of State and of the American commissioners, for the health of President Wilson and of Mr. Carranza, and for the prosperity and greatness of our respective countries.

DR. RAMON M. VALDES, PRESIDENT ELECT OF PANAMA.

Following the popular election on July 9, 1916, Dr. Ramon Maximiliano Valdes was designated President of Panama for the constitutional term 1916-1920 by the Electoral Assemblies which convened on August 1 and 2. The inauguration will take place October 1. Dr. Valdes has been active in the public life of the Republic for many years and at the time of his election was serving as second *designado* (Vice President). The President elect was born in the town of Penonome, capital of the Province of Coele, on the 13th of October, 1867. He received his early instruction in the public schools of his Province and later attended the Esperanza College of Cartagena, Colombia, where he studied literature and philosophy and specialized in law and political science. In 1898 Dr. Valdes began the practice of law in Panama City. Prior to active practice he was deputy to the Departmental Assembly of Panama, from 1892 to 1894, and in 1895 was appointed mayor of the district of Colon. In 1896 he was elected deputy for Panama to the Congress of Colombia, also discharging during that period the duties of under secretary of finance of the Department of Panama. In 1900 he was appointed Secretary of Public Instruction of the same Department. Following the independence of the Republic of Panama, Dr. Valdes devoted himself to the practice of his profession and acted as consulting attorney of the new Republic. He also sat in the Cabinet of President Obaldia as Secretary of Government and Justice and was charged with the duties of the foreign office as well. In 1912 Dr. Valdes came to the United States as Envoy Extraordinary and Minister Plenipotentiary and renewed many of the friendships he made during his first visit to this country in 1909 as commissioner to the Hudson River cele-



IRAN. MONUMENT TO NAPOLEON BONAPARTE.

MUSEUM OF THE ARCADE.

brations. The following year he was sent to Europe as minister resident to the courts of England and Belgium, and during his stay in Europe he was also designated member of The Hague Permanent Court of Arbitration. The President elect is a scholar and writer of note and has made numerous contributions to the historical and legal bibliography of Panama. He was a delegate to the Second Pan American Scientific Congress which recently met in Washington.

DEATH OF SEÑOR AMADOR.

Señor Don Juan Neftali Amador, subsecretary of foreign affairs in the cabinet of President Carranza, died in the City of Mexico on August 10, 1916. Señor Amador was in the prime of life and enjoying the fruits of his early devotion to scientific and legal studies. He was financial promoter of Zacatecas and later of the city of Juarez. During the régime of Madero he became affiliated with that party and entered upon the study of international affairs. Shortly after he was appointed district judge of the city of Juarez and held that post for some time. When the government of Gen. Carranza was established at Vera Cruz, Señor Amador was made subsecretary of the interior, and from there he went to Washington to take charge of the confidential agency which the Carranza administration maintained at the capital. From Washington Señor Amador returned to assume the duties of subsecretary of foreign affairs. He was making a creditable record for himself by his splendid labors in that department when death unexpectedly overtook him in the fullness of his vigor.

BOOK ON LATIN AMERICA.

Dr. Harry Erwin Bard, secretary of the Pan American Society of the United States and former official advisor of the ministry of instruction of Peru, has recently issued an excellent little book entitled "South America: Study Suggestions," which is published by D. C. Heath & Co. This work can not fail to supply a long-felt want and should prove of practical use to educational institutions, libraries, societies, and individuals desiring to take up to a greater or less degree the study of countries and peoples of Latin America. Dr. Bard brings to the consideration of this subject the knowledge which results from extended experience in Latin America and long study of Pan American questions. In its preparation he has had the assistance of Mr. R. R. Miller, secretary of the Institute of Educational Travel, and Phanor J. Eder, Esq., a well-known author on Latin American subjects.

In connection with this book of Dr. Bard it can be said that the Pan American Union is always ready to supplement his summarized bibliography with more complete lists of books relating to each or to

all of the countries of Latin America. This point is noted because it is hoped that Dr. Bard's book will be instrumental in promoting careful study of the Latin American countries and peoples.

PAN AMERICAN LUNCHEON CLUB OF SAN ANTONIO, TEX.

The city of San Antonio, Tex., is to be congratulated upon the organization of the Pan American Luncheon Club by a number of its representative women for the purpose of discussing and studying the histories, ideals, and aspirations of the American nations. The plan of organization is unique and original. The club will consist of 21 members and 2 officers. Each member will represent one of the countries of the Pan American Union, and occupy the seat specially designated for that country at a round table. Meetings will be held twice a month at one of the leading hotels, and one nation will be considered at each gathering. The woman representing that nation will select her own program and preside over the ensuing discussion. Mrs. J. C. Griswold, who conceived the idea upon which the club has been founded, was unanimously selected as its director general, with Mrs. A. C. Pancoast as assistant director.

CONSUL GENERAL OF COLOMBIA IN NEW YORK.

The Pan American Union is in receipt of an announcement that Señor Don Aurelio Rueda A. has been appointed Consul General of the Republic of Colombia at New York City, and is now in full charge of the responsibilities of that important post. This office takes advantage of the present opportunity to express the hope that the pleasant relations existing between the Pan American Union and the consulate general may continue as heretofore.

REPORT ON WOMEN'S AUXILIARY CONFERENCE.

The Director General of the Pan American Union wishes to extend his congratulations to Mrs. Glen Levin Swiggett for the excellent report which she has prepared in English and Spanish on the Women's Auxiliary Conference which was held in Washington December 28, 1915, to January 7, 1916, in connection with the Second Pan American Scientific Congress. The Director General also extends his compliments to Mrs. Lansing and her associates of the Women's Auxiliary Committee, who worked so hard to make this Auxiliary Conference a success. The report of Mrs. Swiggett has already attracted much attention in the United States and Latin America and is sure to be a practical incentive toward closer relationship among the women of the Americas and the holding of another conference at some favorable time in the future. If any of the readers of the BULLETIN desire copies of this report in either Spanish or English they can obtain them by addressing this office.

SOUTH AMERICA AND THE TOURIST--THE FAR SOUTH¹

THE tourist while in the far southland may wish to make the trip to Asuncion, the capital of Paraguay and the metropolis of one of the two interior nations of the continent; and perhaps this desire is increased for the reason that a few hundred miles off the well-traveled route to Asuncion, lies the great Cataract of the Iguazu. Suppose, then, a few weeks are available for making this rather unusual journey; exact time can not be stated, as much depends upon railway and steamboat connections and the condition of river waters.

From Buenos Aires one may go to Asuncion by train or by river steamer. It is less tiresome to travel northward by the former; the return trip by the Paraguay and Plata Rivers is then made in shorter time by steaming with the current. There is a weekly through train in operation between the capitals of the two countries; the usual time required to cover the distance of approximately 1,000 miles is about 2½ days. Steamers make the up-river run in from 3 to 5 days.

To visit the Falls of the Iguazu the tourist leaves the train at Posados (or steamer at Corrientes), a small Argentine town on the Alto Parana River opposite the Paraguayan town of Encarnacion, about 45 hours after departing from Buenos Aires. Here transfer is made to one of the little steamers that ply up and down the Alto Parana. These steamers leave Posados every few days, there being four boats in the service which carry passengers. The *Iberá* and the *Salto* are the best. If close connection is not made, the tourist must stop over at Posados, where there are several hotels, primitive, but undergoing improvement. After three days' voyaging up the Alto Parana, making calls at little ports along the way and stopping at night at quiet coves, the traveler is landed at Port Aguirre; this place is nearly a mile from the mouth of the Iguazu River. If the time be between the months of March and September one has arrived at the best season for viewing the falls.

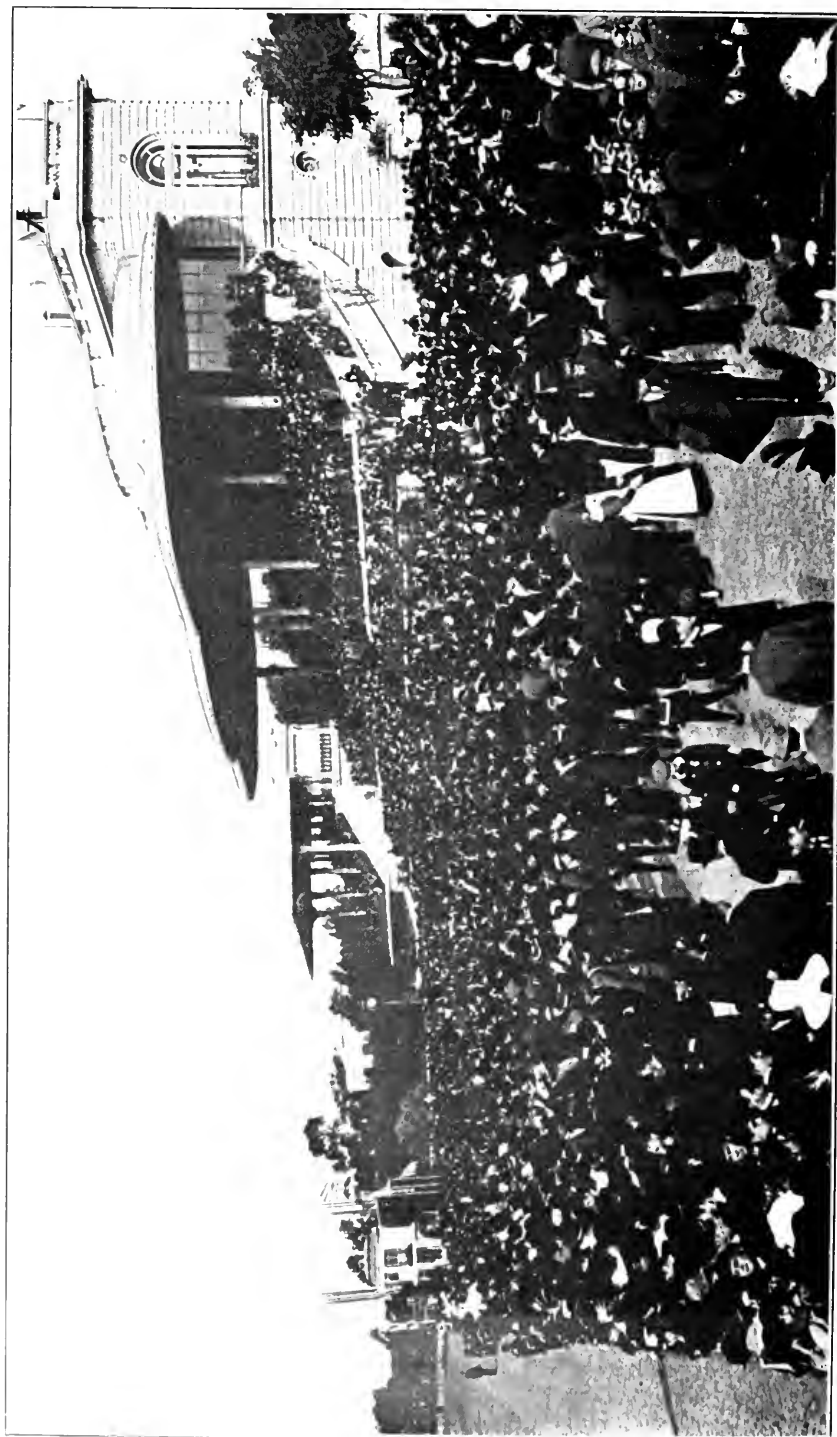
The boat then proceeds to the head of steam navigation on the Alto Parana, and a few days later calls for the tourist on the return trip. In the mean time, the proprietor of the building at Port Aguirre provides food and cots, and also mules or a coach for visiting the falls, about 11 miles distant. The route leads through a jungle where no habitations exist, but along the way one is interested in giant

¹ By William A. Reid, of the Pan American Union staff.



A VARIETY OF UNITED STATES TOURISTS VISITING BUENOS AIRES.

For three years, however, many American ladies are heard of touring the southern continent



HIPPODROME SCENE AT BUENOS AIRES.

Uro-sporting is about as popular in South America as is baseball in the United States. In the former countries, however, handsome gowns of the ladies and splendidly dressed men go much to the attractiveness of the occasion—dress is an important factor to bear in mind by tourists as well as citizens.

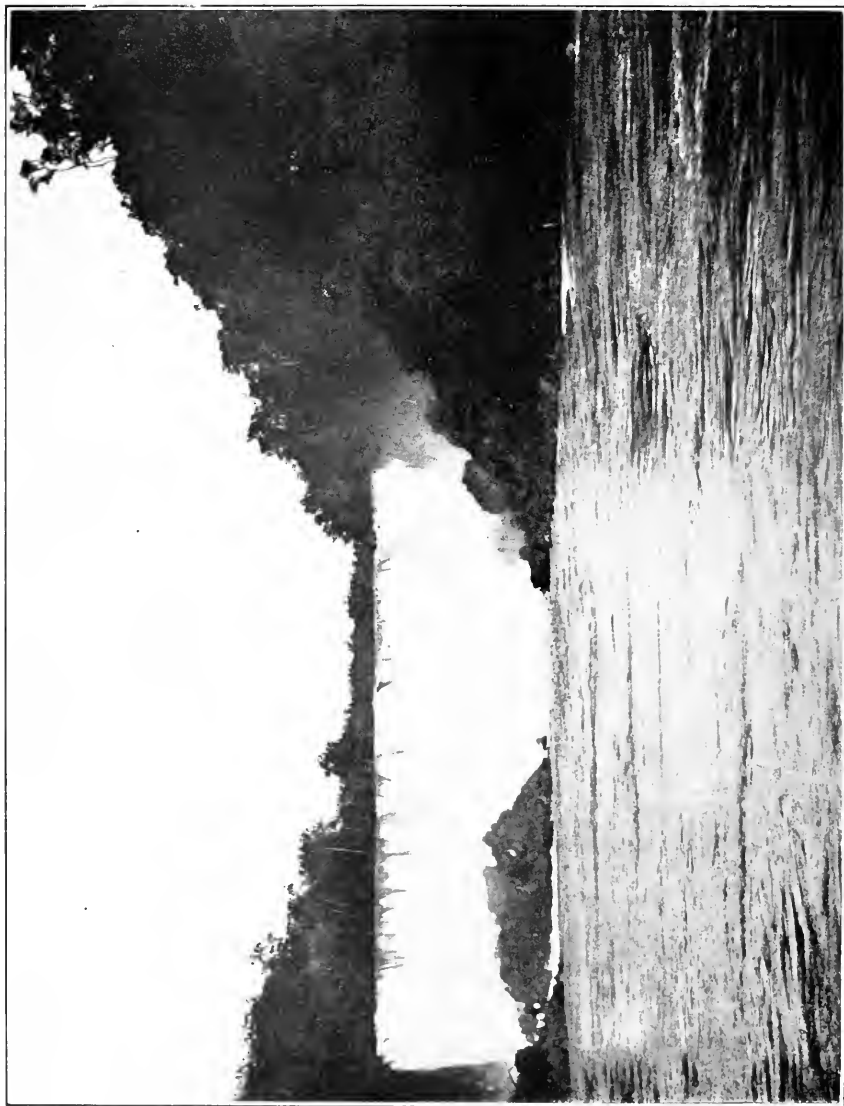
forest trees, wild flowers, creeping vines, birds, butterflies, and now and then a small animal is seen glaring from the thick undergrowth. The muleteers, however, are provided with rifles, and there seems to be little danger of being molested.

Arriving at the falls, the traveler finds several small buildings within which are cots, tables, chairs, etc., and he can make himself fairly comfortable; but the insects are annoying, both night and day. A powder called Bufach, which may be purchased before leaving Buenos Aires, is generally quite effective. Food is brought from Port Aguirre. Sometimes one of the muleteers shoots a bird or catches a fish, and thus adds to the menu. It is worthy of remark that several mineral waters or Argentine wine may be purchased at Port Aguirre and brought with one; few travelers drink the river or spring waters, although they appear perfectly pure.

The Falls of the Iguazu are beautiful, magnificent, wonderful, and as a whole rank as one of the world's greatest cataracts. There are a series of falls, the highest having a drop of 210 feet, as compared with 164, the greatest single fall at Niagara. Opinions differ, of course, in drawing comparisons of world cataracts. The Iguazu thunders and whirls amid the solitude of primeval forests, surrounded by giant trees, creeping vines, orchids, and other tropical growth. Only three human beings, a man, woman, and child (when the writer was there), keep vigil, so to speak, over the marvelous freak of nature. They care for the little house or two, and when a visitor comes the woman cooks the food, while her companion acts as guide about the area of the rushing waters.

Within a week or 10 days the traveler returns with the boat to Posados, having enjoyed many unusual experiences. He may or may not have to wait again at Posados for the train for Asuncion; it usually passes early in the forenoon once or twice a week. The through cars are ferried across the Alto Parana aboard a specially constructed boat, and on the Paraguayan shore, near Embareacion, are drawn up an incline by steam power.

At the station of the Central Paraguay Railway a new train is made up by attaching the cars from Buenos Aires; a short stop is made at Embareacion, a town of about 8,000 people, and then begins the journey across Paraguay, which lasts from morning until nearly midnight. Distance, 232 miles. The train carries a dining car and very fair meals are served; and it is not unusual for passengers to sit the whole day in this car. Strangers prefer to remain in their compartments of the regular coaches and visit the diner at meal hours. For those who are sociologically inclined there are interesting studies seen at every little station along the route. The business man will be impressed with the large number of cattle and glimpses of lumber industries observed from the train.



FALLS OF THE NACUNDAL RIVER.

In steaming up the Alto Parana the little vessel passes the cataract above portrayed. It forms a pleasing change from the silent and dense forest existing on both shores of the river. A few hundred yards up the larger river there is a little settlement, where the steamer may stop to load supplies.



A SECTION OF THE GREAT FALLS OF THE ICÚ-AZÚ

A close view, showing the cataraet as a whole that a single view does not do justice to the subject. In general outline the falls are about 1,000 feet high, being about 14,123 feet. The tourist must walk several miles in and out of tropical foliage in order to obtain

Asuncion dates from 1536, and most tourists consider it an interesting old city. Paraguayan history is well worth reading before arriving or while one tarries within the gates of the capital. Asuncion is only 200 feet above sea level; average summer temperature, October to March, is 64° F.; annual mean temperature is about 71° F.; population is 80,000; electric lights and modern street cars were recently introduced; buildings are attractive and rather different architecturally from those of other Latin American cities. The tourist should visit the Government Palace; National Library, a most interesting collection of rare books; Arsenal; National Museum, where some beautiful paintings are exhibited; Tacumba Hill for the excellent view; and the markets. A day spent at San Bernardino, one hour's time by rail, will give one a good idea of a Paraguayan resort patronized by the best people.

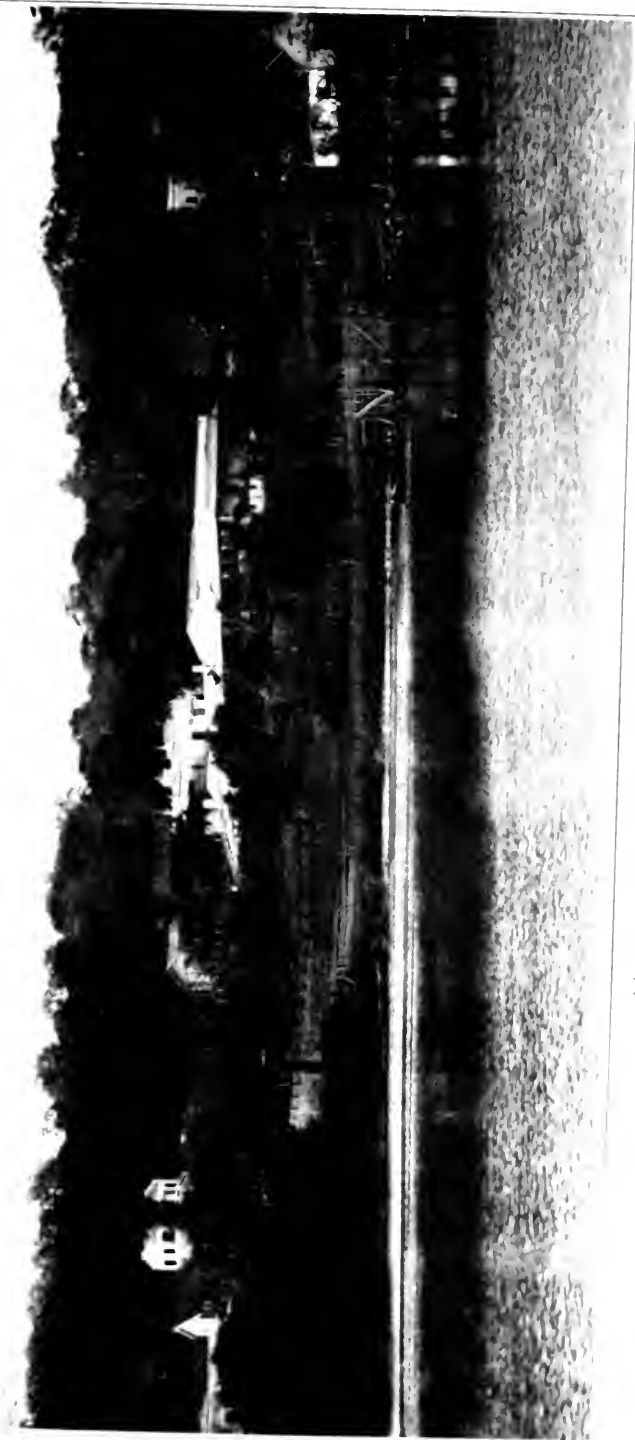
The streets of Asuncion are roughly paved, but in the newer section, where most of the foreign legations are located, considerable progress has been made in improving and beautifying the streets and avenues, and automobiles have been introduced. Hotels are fair, and in two of them the writer found modern plumbing and bathing facilities.

Steaming down the Parana and Plata Rivers is not without interest, and the various short stops will provide the tourist with opportunity for going ashore and visiting the markets and shops of river towns of northern Argentina.

The trip from Buenos Aires and return, including the Iguazu, Asuncion, etc., may usually be made for about \$200, which covers all necessary expenses.

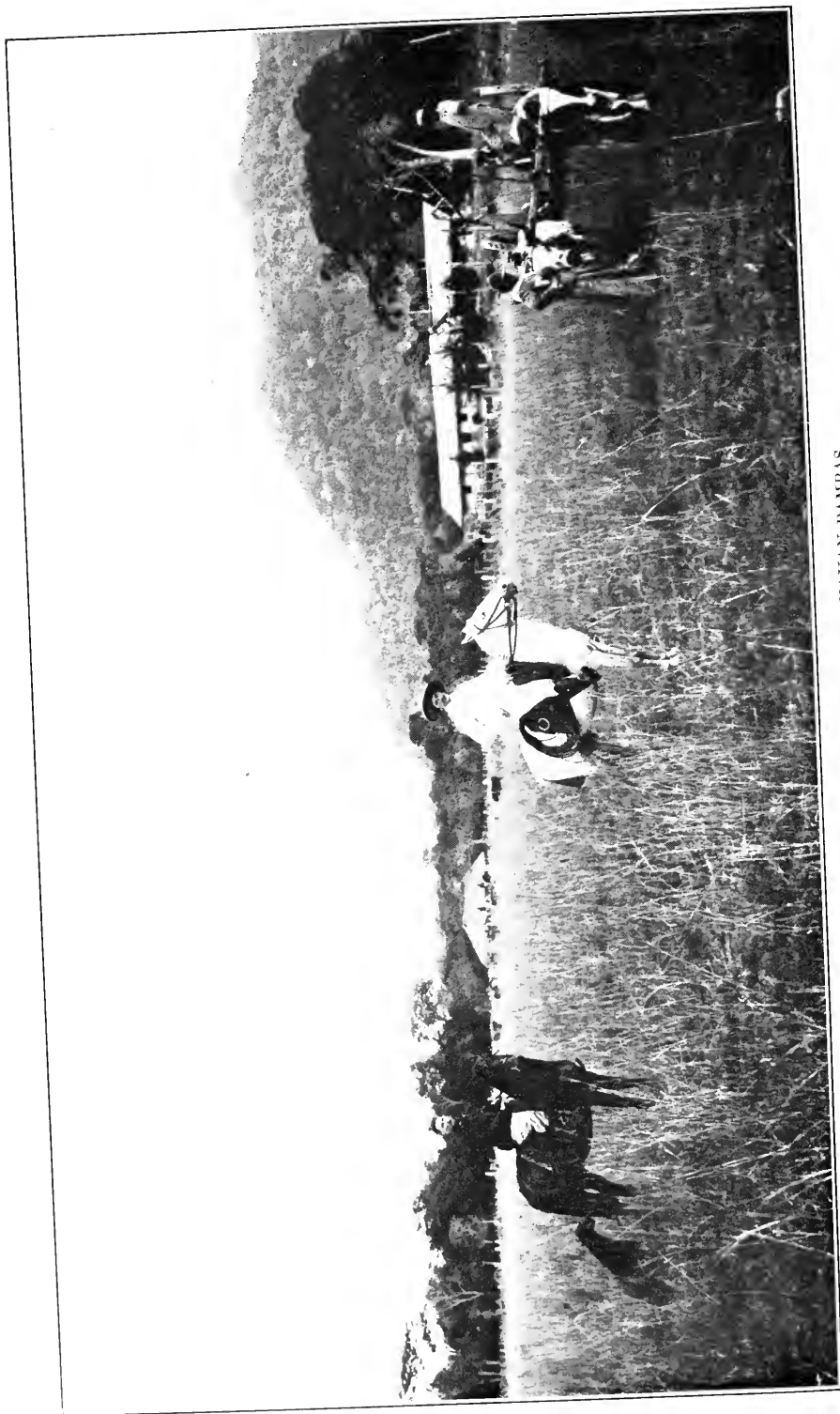
From Buenos Aires, the tourist bound for the western countries of the continent has the choice of two principal routes, the other routes not yet being practical for the average tourist. The former is by rail across the Andes, 888 miles to Valparaiso, and the other by steamship via the Strait of Magellan, a distance of over 2,000 miles to reach the ports of central Chile. The railway requires two full days and one night, and at the present writing there is a weekly train. If the traveler leaves Buenos Aires a few days in advance of the departure of the transcontinental train, and goes as far as Mendoza, 635 miles westward from Buenos Aires, he may enjoy a short sojourn in one of Argentina's interesting western cities and catch the trans-Andine express as it passes Mendoza. This city has been damaged several times by earthquakes, but each time it has been rebuilt more modern and pretentious than before.

Mendoza has 30,000 people and lies at an altitude of about 2,370 feet; the city dates from 1561. There are many carriages and an increasing number of automobiles. The tourist should take the latter and in a few hours visit one or more of the great "bodegas," or



ONE OF THE ATTRACTIVE RESORTS NEAR ASUNCION.

It is possible to enjoy in making the trip by rail and boat to San Bernardino, which is picturesquely situated on Lake Ipaacatal. The time from Asuncion to San Bernardino by rail is about an hour. Boats and boats are available for tourists.



A FAMILIAR SCENE ON THE PARAGUAYAN PAMPAS.

Vast areas are available for cattle raising and agriculture, and as the tourist journeys across the country many herds and the picturesque cowboy may be seen from the car window.

wine establishments, for which the surrounding section is famous; also visit the hill overlooking the city and see the monument commemorating the passage of Gen. San Martín over the Andes many years ago. The monument is one of the most beautiful in all South America, and the view from its base is magnificent.

At Mendoza the narrow-gauge railway begins; it ends at Los Andes on the Chilean side of the mountains and is approximately 160 miles long. All passengers traveling in either direction must, of course, change cars at Mendoza. The start from the latter city is usually made early in the day, and the traveler thus has daylight during the interesting trip, which is replete with splendid views and the sight of marvelous feats of engineering. The tunnel is nearly 3 miles long and lies at an altitude slightly over 10,000 feet; about midway of the tunnel is the boundary of the two countries. The famous statue of Christ the Redeemer stands on the boundary 2,000 feet above the tunnel and is not seen by travelers who use the railway; but if the tourist has another week to spare he may arrange (consult station master, Mendoza) for a mule or coach trip from Punta de las Vacas or Las Cuevas over the mountain pass where the monument stands. At the high altitude of 12,000 feet one often encounters strong winds or snowstorms, and only the robust should undertake the strenuous mule trip over the Uspallata Pass. At Los Andes all passengers must change to standard-gauge trains of Chilean roads.

The water route to Chile is usually navigated in European steamships, and in normal times fortnightly sailings (at times more frequent) are provided; the length of the voyage being 12 to 14 days. Some of these ships call at the Falkland Islands, 1,000 miles south of Montevideo and several hundred miles east of Tierra del Fuego. The writer considers the call at Port Stanley very interesting, and its remoteness from the great throbbing world adds a touch of quaintness. The town has about 1,000 population, and English is largely spoken. Ships anchor in Port William Inlet, a large land-locked bay, and small boats convey the traveler ashore.

A few large buildings, a cathedral, the residence of the governor, soldier barracks, and the shops are quickly seen; a walk back from the town over the hills gives one a better glimpse of the country, bare and brown in appearance. The souvenir hunter has little to find, but in certain seasons, say from November to February, small wild flowers are abundant. East and West Falklands are the two larger islands, which, with many small ones, comprise the Falkland group. Port Stanley now has a wireless tower and may thus communicate with ships or with Punta Arenas.

A rather rough sea is likely to be encountered on the voyage from the Falklands to the world's southernmost city, Punta Arenas, 900 miles farther south than New Zealand's city of Christchurch. The former has about 20,000 people, is 6,890 miles from New York,



Photo by Lieutenant Pedro Emerson. Courtesy of The Outing Magazine.

CONTRASTING SCENES IN THE FAR SOUTH.

Upper: One of the fine residences at Punta Arenas in the Strait of Magellan. This city of 20,000 people is an ocean cross-roads, and there are always foreign ships in the harbor. Lower: The lonely lighthouse on Staten Island, which lies northeast of Cape Horn. The home of the lightkeeper is situated a short distance away, but is not shown in the picture.



VIEW OF A SECTION OF THE PORT OF VALPARAISO.

Valparaiso is the chief port of the country. It is often called the "Ampole of Chile," as there is there a line of 40 miles of railway, the longest in the country, the port by electric car from Concepcion, 15 miles distant.

3,980 miles south of Panama, and is the only place in South America where sleighing and ice skating are common amusements. Latitude 53°. The ship usually anchors a mile or more off the port and small boats are used for going ashore. The traveler will be rather surprised at the number of good buildings, wide streets, and shops. The land rises gradually from the water's edge, and if the tourist will climb the hills back of the city a fine view is obtained of the surrounding country, with distant views of Tierra del Fuego.

The little museum in the Colegio Salasiano should be visited; it contains curios and works of crude art of the natives of the Fuegian Archipelago and other near-by regions. Within the same building is a school, the southernmost seat of instruction on the globe. A few curios for sale may be found in the shops. Picture postcards are plentiful. There is cable service with the United States and with Europe. The region has 250 days of cloudy or rainy weather a year, while at some seasons the day begins to break not very long after the hour of midnight.

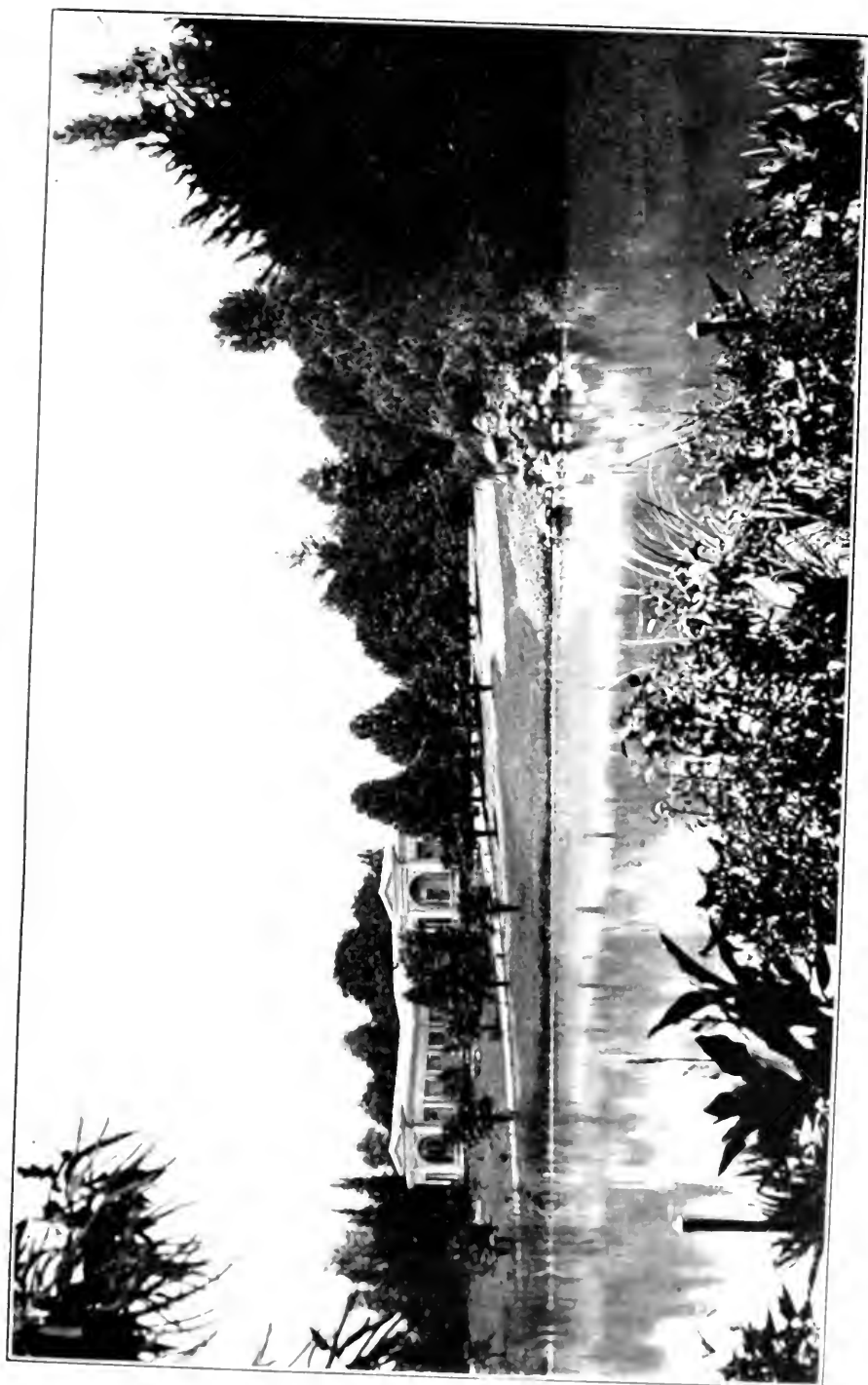
If the ship sails from Punta Arenas in daylight the traveler will be doubly rewarded, especially if the sun shines. Beautiful and sublime sights greet the eye. A feeling of loneliness, of helplessness, of one's utter desolation seems to engulf the ship as it steams slowly toward the Pacific, dominated on every side by the wonderful works of the Creator. The tourist should watch for Cape Froward, the southernmost tip of the South American Continent, and far southward may be seen Mount Sarmiento, the highest peak in Tierra del Fuego.

As the Pacific Ocean is reached the ship begins to roll; passengers bid farewell to the "three sister islands" that lie near the western entrance to the Straits, and endeavor to make themselves comfortable. High seas often prevail in this latitude and as the vessel steams northward she is likely to have considerable motion. Small steamers often take the Smythe Channel route, but large ships and sailing vessels usually go far out to sea in their northward course.

The tourist may land at the first Chilean port of call, which is usually Coronel or Lota, where many vessels take on coal, and go by rail to Concepcion, the southern metropolis of Chile.

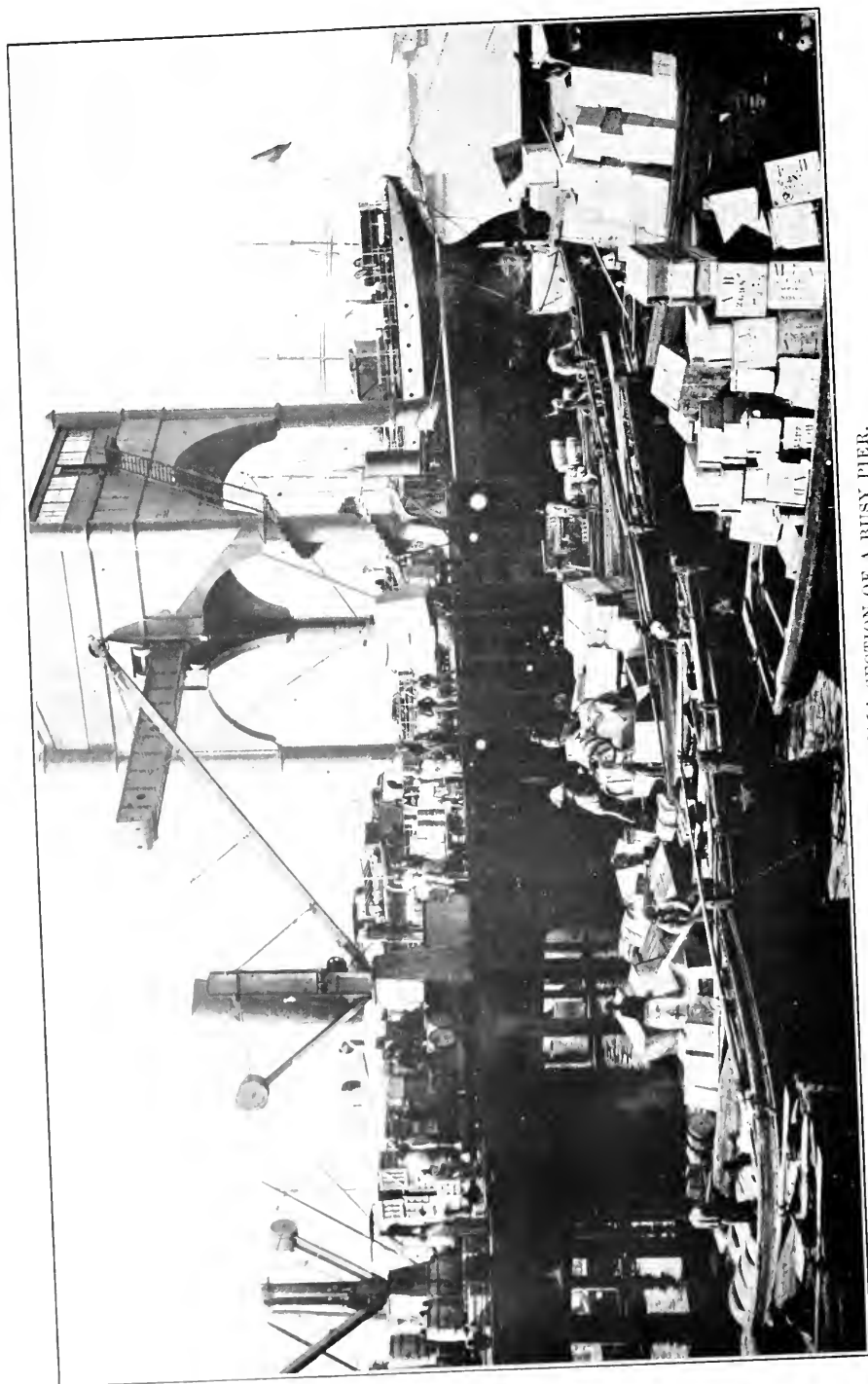
Concepcion is the third largest city of Chile. It has a population of 52,000 and is about 415 miles south of Santiago. Several hotels, managed by natives and by Germans, offer very fair accommodation, the architecture of the buildings being the two-story plan, with large courts upon which the rooms open. Many private homes are one-story structures, the probable reason being that in the past earthquakes have caused much damage to property and the lower the structure the less the danger.

One of the city's unusual sights for the foreigner is the custom of employing women as street car conductors. The cars usually have



A BEAUTIFUL COUNTRY HOME NEAR SAN FLUJO

It is one of the most beautiful and comfortable to the eye and to the other of the importance.



VALPARAISO—A SMALL SECTION OF A BUSY PIER.

Valparaíso is one of the great ports of the world and in its harbor are to be seen the ships of many nations. Millions of dollars are being expended in constructing docks and breakwaters, and the work is already considerably advanced.

upper and lower sections; the former being the cheaper is used by poorer classes and laborers. While in Concepcion take one of the electric cars and visit Talcahuano, Chile's important naval station, which has a population of 16,000. The famous Cousiña estate is not far distant.

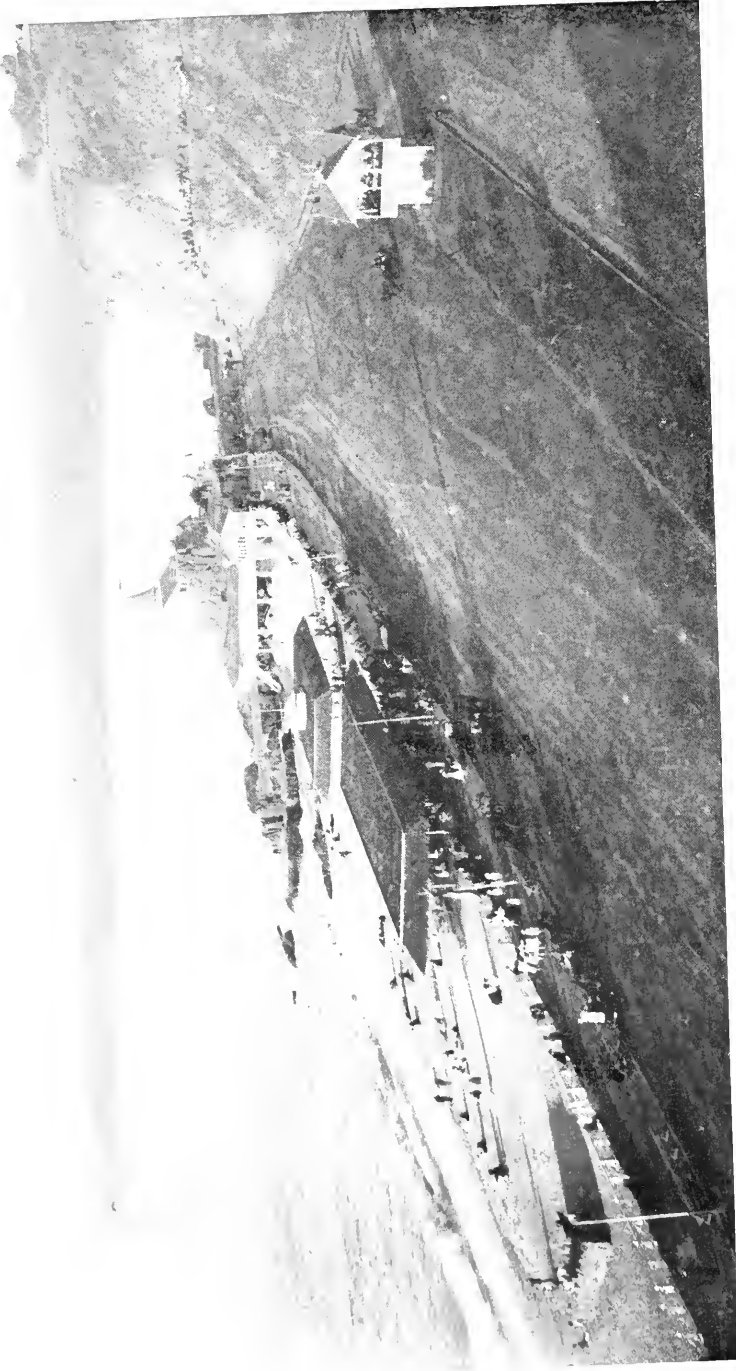
In the region surrounding Concepcion lie the country's greatest coal mines; they are actively worked and supply fuel for many passing ships. There is a large German population in Concepcion, which is also the case with the country extending southward to Puerto Montt. Architecture in this section of Chile partakes of German styles and the rural activity of the region is especially noticeable.

The tourist has a full day aboard train from Concepcion to Santiago, starting about 7 a. m. Pullman chair cars are in service. The route lies through the valley of Chile, and on either side of the railroad one catches glimpses of the agricultural activity of the people; the little way stations are interesting. In the distance the snowcapped Andes often loom into view, contrasting strongly with the growing crops of the lowlands. Descendants of the aborigines are frequently seen, offering to the traveler homemade trinkets or fruits.

Santiago, the capital of Chile, lies on the Mapocho, and is one of the most prosperous as well as one of the prettiest cities of South America. The population numbers about 400,000; the climate of the city and the vicinity is pleasant, being more or less similar to that of southern California or the Carolinas. Lack of abundant rains in the summer months (our winter) sometimes makes the surrounding country rather dusty for the traveler; in the cities and towns, however, street sprinkling prevents this disagreeable feature. The altitude of the city is 1,700 feet; distance to Valparaiso is 115 miles. The new port of San Antonio is considerably nearer the capital, but its chief use at present is the shipping and receiving of freight.

Recent years have been marked by many improvements in Santiago. Several good hotels exist and quite recently two or three new restaurants have been opened; but, as a Chilean statesman remarked to the writer, "Santiago's hotels have not advanced with the city; we must make them still more attractive to the tourist," which no doubt will be done. Electric cars, automobiles, and carriages convey the traveler about the city; in case one uses the latter, the good Chilean horses are especially pleasing. One of the first drives or walks should be to the top of the hill of Santa Lucia, where one observes the beautiful and unusual treatment applied to a hill within the heart of the city. The Cerro, as it is called, lies a short distance from the Plaza de Armas, the business heart of Santiago. Once upon the summit a fine view of the city and the surrounding valley is obtained.

Several large book-stores near the hotels handle English and American books and papers; the English language is spoken by several of



ONE OF THE BATHING BEACHES NEAR VINA DEL MAR.

The view shows the highway and also the electric line over which the tourist travels from Valparaíso to Vina del Mar, the Atlantic City of Chile. The former contains some of the finest clubhouses, residences, and gardens to be found in South America, and in summer (our winter) the resort is thronged with visitors.

the clerks and guidebooks may be obtained. Some of the attractions for the tourist are: Halls of Congress, Fine Arts Building, Mint, Cathedral, the race course at Forest Park, Cousiña Park, Agricultural Park, Argentina's legation building, which was presented to that nation by Chile, President's Palace, University of Chile, Santiago Club, and of course the Alameda. The latter is one of the world's widest avenues; along it stand at intervals statues of the heroes of Chilean history.

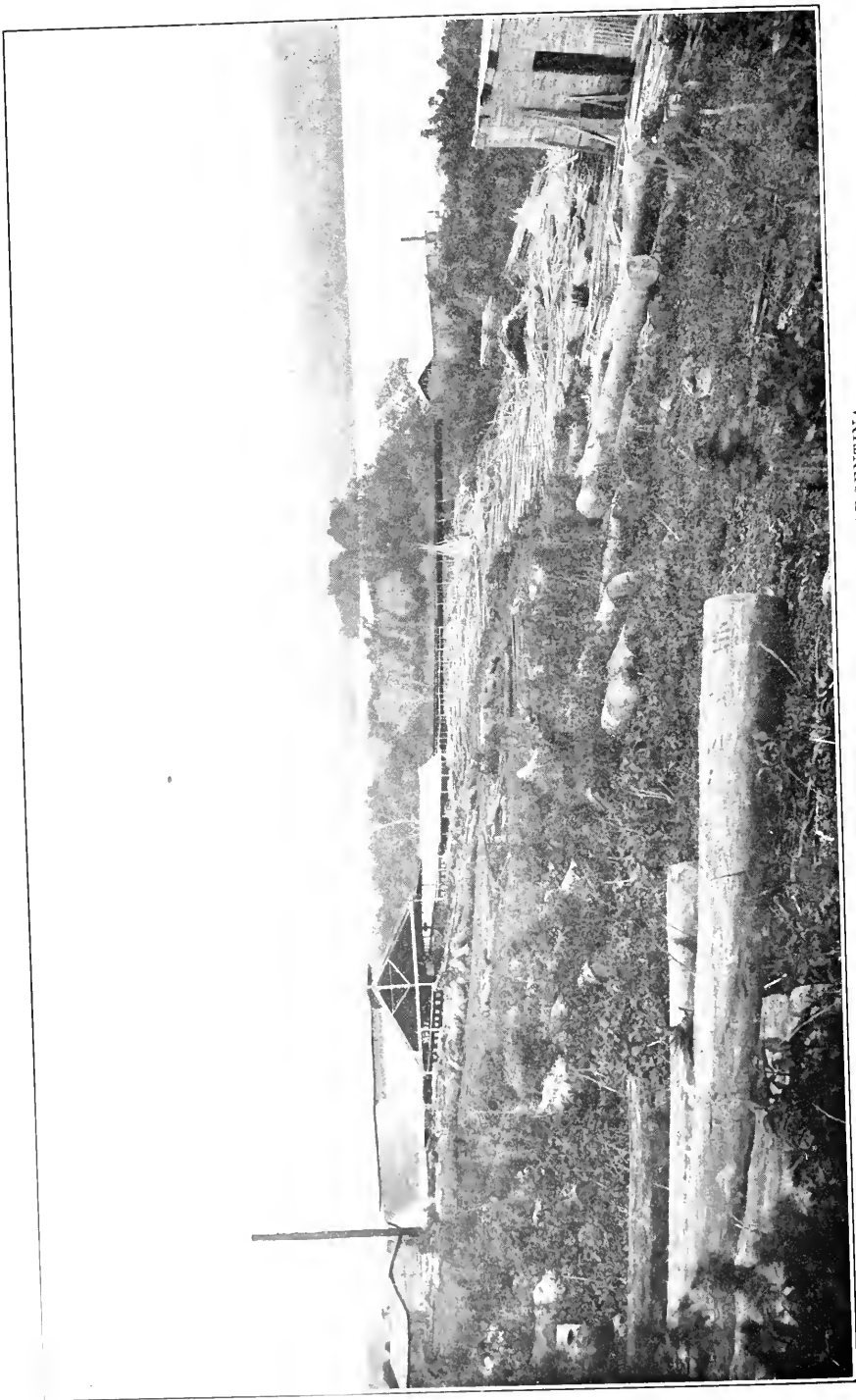
Glimpses of Chilean social life may usually be obtained by visiting Cousiña Park late in the afternoon or evening, where the wealthier classes are seen riding and driving or enjoying café life under spreading trees. The Sunday races also attract the cream of society. The band concerts in the Plaza de Armas, about three times a week, are interesting; they draw large crowds and afford the stranger opportunities for mingling with the Chilean people.

MANUFACTURING IN ARGENTINA

A SHORT time ago as the writer passed along one of the active business streets of Buenos Aires his attention was attracted to beautiful show windows within which were exhibited many things that grow or are made in Argentina. In other words, in a temporary museum Argentina was exhibiting her wares and merchandise for the edification of the masses, and no doubt the average person who passed or who tarried to enter the building for closer views was surprised at the large number of articles displayed.

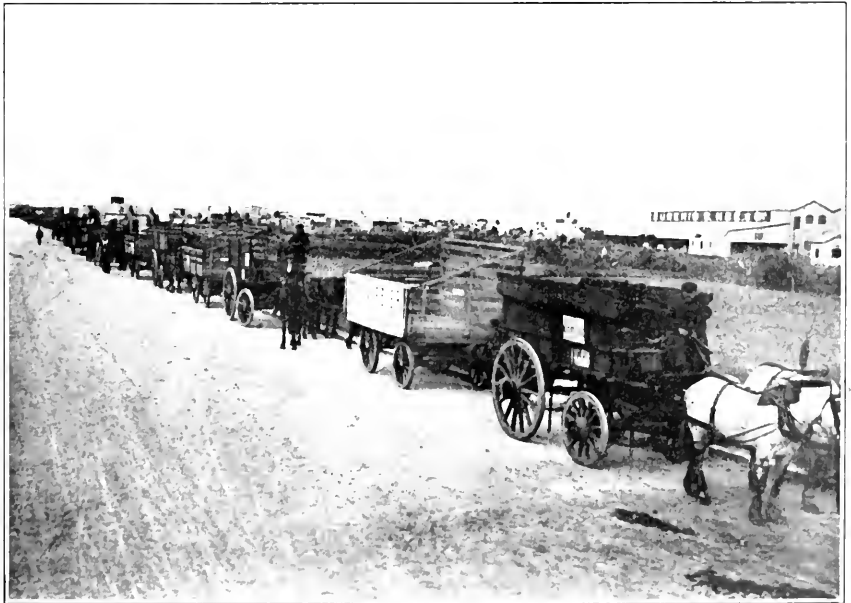
Such an exhibition, particularly of the natural products that are needed in great manufacturing communities, cause one to wonder why Argentina can not turn more of her raw products into ready-to-use goods. As everyone knows, the country has long focused its attention on the development of the range and the growing of crops. These vast industries have brought prosperity and a greater per capita wealth to the people of Argentina than is enjoyed by the inhabitants of any other country. Yet there is a large percentage of poor who must pay high prices for the manufactured necessities of life. If more factories could come to the country the cost of living might be reduced, and at the same time the laborer would have additional opportunities for work.

On the other hand, Argentina is not supposed to be richly endowed with two of the great combustibles—coal and oil—that turn the



A SCENE IN THE TERRITORY OF MISIONES, ARGENTINA.

Here the modern sawmills are hard at work on the exploitation of virgin forests. Note the many fine logs and the sawed lumber awaiting shipment down the river to Buenos Aires, nearly 800 miles away.



PRODUCTS OF ARGENTINA'S FACTORIES.

Upper: Interior view of a section of a factory near Buenos Aires, where wagons and other vehicles are manufactured. Lower: A string of harvester wagons leaving the Buenos Aires factory for service in the wheat fields.

wheels of the factory; neither has water power been largely harnessed to produce the electric current. In some respects conditions of the country are similar to those that formerly existed in the Western States of the American Union. Cattle and grain abounded, and it was the custom to ship the hides of stock to the New England States to be turned into leather and the leather into footwear, much of which eventually found its way back to the plains. But gradually the manufacturer became convinced that boots and shoes could be made in the West even if there did not exist the abundance of short and rapid streams of water. Other sources of energy were developed, and in some instances the power is carried many miles. If Argentina is to become a power in the manufacturing world, the development of dormant energy must be considered in connection with the factory.

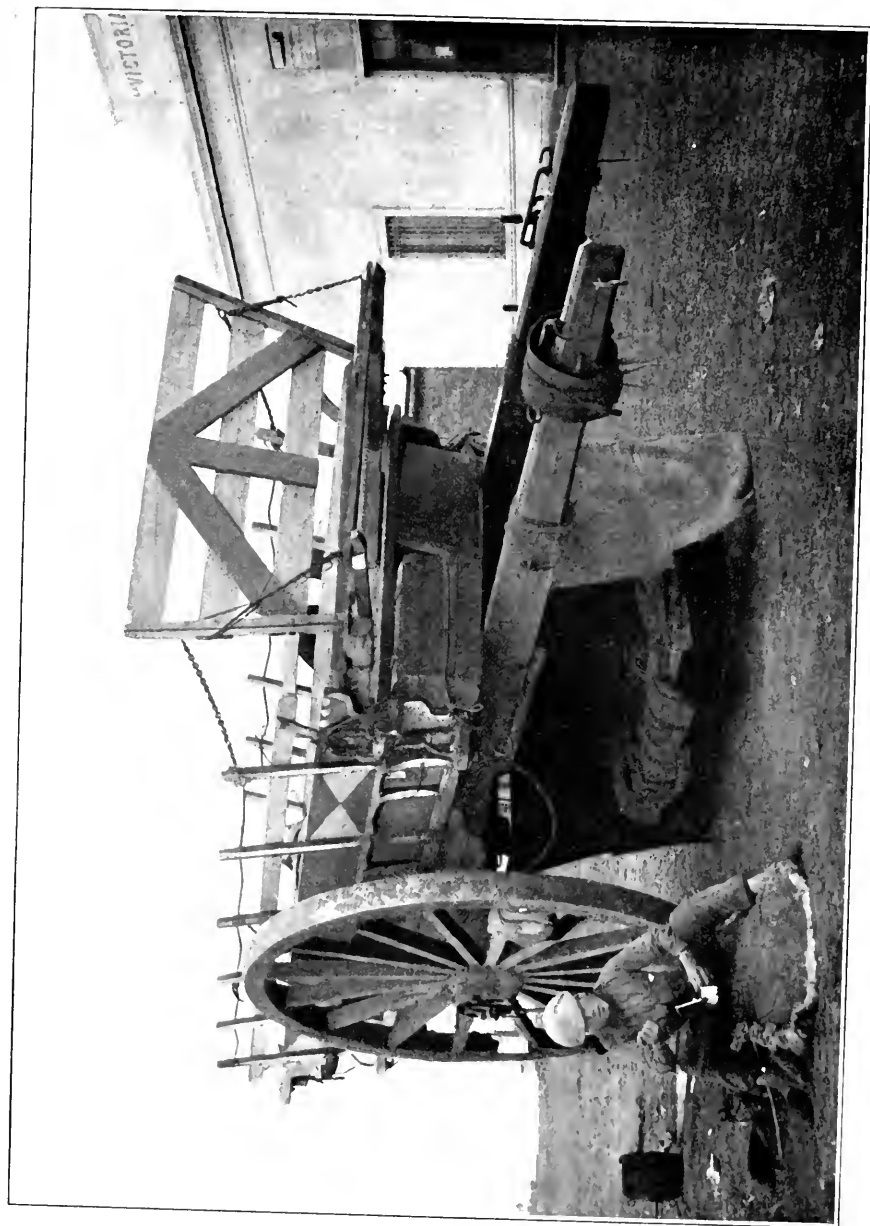
World events have caused the Republic to delve deeper into her natural resources; the rapid rise in the prices of coal and oil have demonstrated the necessity of finding greater quantities at home, instead of purchasing such commodities in foreign lands.

Argentina has long known of the richness of her petroleum regions but they have never been developed to an important fraction of their capacity. During the writer's recent visit to the oil lands of southern Argentina he found renewed activity in petroleum development, not only on the part of the country's officials but by private companies. At the same time the public press was urging greater activity and prophesying what the future held in store for the nation if petroleum could be produced in vaster quantities.

In the region of Comodoro Rivadavia, which is regarded as one of the world's richest oil areas, the work of eight years has resulted in a present production of about 6,000 tons a month. This is only a fraction of the quantity needed for Argentine consumption. About half a million tons are annually imported, which does not include refined kerosene. Other regions which are known to contain petroleum deposits in paying quantities are Neuquen, Mendoza, Salta, and Jujuy. Were these regions worked even to a lesser degree than Comodoro Rivadavia it might give a decided impetus to domestic manufacture.

Coal-bearing strata in Argentina have been receiving more serious attention in recent years, and in the Provinces of Mendoza, San Juan, etc., and in the Territory of Neuquen, mining has made sufficient progress to expose considerable quantities of coal. In one place a shaft was dug into a very extensive coal deposit; at another point a coal seam was found at a depth of 600 meters.

So, to a considerable extent, the future progress of manufacture in Argentina on a large scale depends upon the amount of capital and the energy that are to be devoted to the greater exploitation of the country's natural sources of energy.



THE ARGENTINE CART.

Foreigners often wonder why the average ranchman and farmer prefers the homemade 2-wheeled cart to the 4-wheeled wagon. Various facts and long usage enter into the story. Note the driver sitting high and his sleeping place under the vehicle. Three or more horses pull this cart; several are worked abreast, and very heavy loads are hauled for many miles.

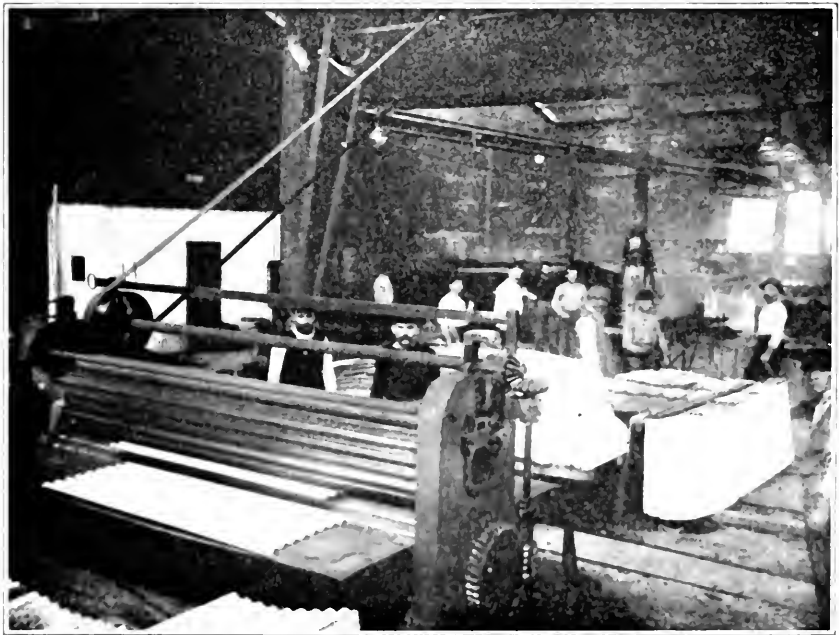
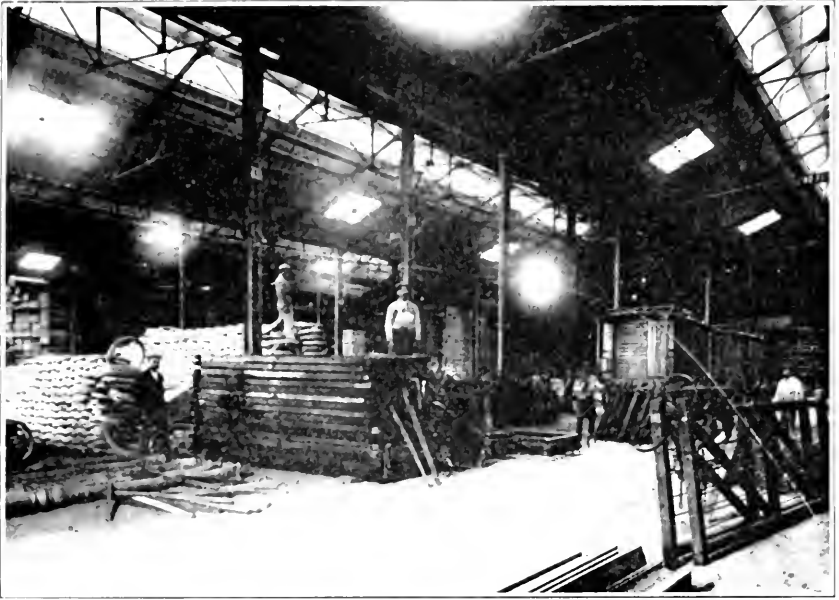
Notwithstanding the shortage of coal and petroleum in the past, Argentina has indeed made strides in manufacturing. Let us consider very briefly a few of the articles produced. The foreign agent who goes to Argentina to sell the ordinary farm wagon, for instance, may be surprised to see comparatively few foreign wagons in use. Instead of the four-wheel wagon, so common on the farm in the United States, one finds the Argentine cart, with its two gigantic wheels. The cart is drawn by a string of half a dozen oxen or by five or six horses working abreast, with one or two leaders. These carts are a domestic production, and they appear to be more suitable to the pampa than the four-wheel wagon, for the former's wheels may be half buried in mud or sand, yet the enormous vehicle moves steadily along toward its destination. It is claimed that the ordinary farm wagon would be an impossibility under such conditions. Argentina manufactures a wagon that particularly suits conditions and one that is popular with the people. Even the average gaucho driver scorns the four-wheel foreign wagon. In time the automobile truck may displace the long popular cart.

Another illustration of the domestically made article is found in the windmill. For many years the mill from the United States has been, and in many cases is still, popular. To-day, however, the locally made windmill is to be seen in use over the pampa and in adjoining countries. Its manufacture is already cutting the sale of the imported article.

Galvanized and fluted iron sheets are also to be noted as a local manufacture. Plain iron sheets are imported, but an Argentine factory does the galvanizing and the fluting. Later this product finds its way to the hacienda for roofs, sheds, small houses, and many other uses.

Furniture making is still another Argentine industry that has grown to importance. In a large new hotel at Corrientes the writer was surprised to see practically all rooms supplied with home-made furniture. Wardrobe, bureau, chairs, bedstead, springs, mattress, table, and cabinet, all were made in the Republic, with the exception of small mechanical attachments; and some of the pieces are works of art and skill, and evidently please the patrons of the hotel. In other hostelries and in private homes about the country one sees constantly the handiwork of the local cabinetmaker.

In the Argentine up-to-date city office the conditions are quite different, and no imported office furniture or labor-saving device seems to be too costly to install. The business office is undergoing strides of advancement, possibly as a matter of business sagacity, while the home and its conveniences and comforts follow the custom of utilizing domestic manufactured goods.



INTERIOR VIEWS OF A GREAT ARGENTINE FACTORY

Upper: At the right may be seen nearing completion one of the famous "parrilla" wagons. It is about the size of an ordinary street car, with sleeping and dining room, etc., at the front and with charcoal hands from place to place. Lower: Another section of the same factory, showing some of the galvanized-iron products.

Data compiled several years ago shows that Argentina has more than 4,000 different firms engaged in various branches of lumber trade, furniture making, and allied industries. These companies have a capital of \$14,000,000, employ 21,000 hands, and in a single year converted \$18,000,000 worth of lumber into useful articles, the value of which is given at \$33,000,000, or approximately double the price of the crude lumber.

In machine shops and iron foundries there are many large companies, mostly in Buenos Aires and vicinity. Based on the census of 1910, there are more than 3,500 establishments, large and small, capitalized at \$13,000,000; they employ 18,000 men. One of these factories devotes its activity to manufacturing agricultural implements, and it is shown that a dividend of 10 per cent is returned to the stockholders. Another firm is engaged in building bridges, and the latter are found all over the country.

On making the rounds of leading stores in the larger cities of Argentina the writer found, among many other articles of domestic manufacture, the following: Billiard tables, pianos, carriages, wire netting, preserves of all kinds, confectionery, walking sticks, tiles, mosaics for floors and pavements, umbrellas, musical instruments, silver work, lace, saddlery, brooms, feather dusters, shirts, tapestries, hats, shoes, bookbinding work in all branches, cement, and a great many varieties of other manufactured goods.

THE AMERICAN CHAMBER OF COMMERCE FOR BRAZIL

ORGANIZATION and cooperation are the great factors in these days of keen competition, which make for success in the industrial and commercial world. Especially is this true with regard to the development of commerce between nations. The recognition of this was perhaps the chief factor in the remarkable development of Germany's foreign trade during the last 10 or 15 years immediately prior to the war. Organization, intelligent teamwork, and governmental cooperation were tremendous aids to the natural thrift and energy of the German manufacturers and did much to make them rivals of the much longer established British interests in the leading markets of the world.

Individual competition at home may be the "life of trade," but combination and organized cooperation are absolutely essential to the successful invasion of a foreign market in the face of organized

competition, and the large industrial and exporting interests of the United States are beginning to realize the truth of the proposition. Some of them realized it quite a number of years ago and attested their appreciation of the value of teamwork by organizing an American Chamber of Commerce in Paris. This was 22 years ago, and the successful activities of the organization since then have abundantly demonstrated its usefulness, and given it the confidence of leading business interests of both the United States and France. This organization was soon followed by another of similar character established at Constantinople, largely through the activities of the United States Consul General, A. L. Moreau Gottschalk, stationed there at the time. This is known as "The American Chamber of Commerce for the Levant." In February, 1915, representatives of American exporting interests in Italy organized the "American Chamber of Commerce in Milan," for the stated purpose of encouraging and building up trade between Italy and the United States. While American citizens constitute a majority of the board of directors of this organization, the greater part of the members are Italians who are importers, exporters, and agents for American products. The interests of both countries are thus served, the American market for Italian products as well as the Italian market for American goods being considered and cared for.

The most recent addition to American organizations of this character abroad is one established last October in Rio de Janeiro, its official title being "The American Chamber of Commerce for Brazil." Notice of its organization and a group photograph of the officers and organizers appeared in the BULLETIN for March, 1916. From the account of the organization, written by Mr. T. P. Stevenson, honorary secretary, it would seem that Consul General Gottschalk, now stationed at Rio de Janeiro, was largely instrumental in establishing it, and has been made the chairman of the publicity committee. At any rate, whoever may be charged with its paternity, that it is a very lively and healthy infant is attested by its official publication, which has recently appeared under the title of "The Quarterly." In its make-up, illustrations, and interesting contents it rivals the first-class magazines of the day. The purposes of the American Chamber of Commerce for Brazil are set out in what may be termed the salutatory editorial, as follows:

The Quarterly is the official bulletin of a new corporate body in the American colony at Rio de Janeiro—the American Chamber of Commerce for Brazil. It is the object of this chamber to create the amount of organization necessary for establishing a bond between the commercial body of Americans residing in Brazil and their fellow countrymen trading on similar lines in other foreign countries, and to link them more closely to the great mass of their countrymen engaged in manufacturing and in exporting in the United States. It is also their object to recognize the intensely valuable work done by Brazilian merchants in promoting trade between the United States and

Brazil, and to furnish the Brazilian trade with every possible opportunity for closer association and more intimate contact with things American. Membership in the American Chamber of Commerce for Brazil is naturally open to Brazilian houses and individuals, as well as to American houses and individuals in the cities both of our own country and of the Brazilian Republic.

The last sentence in the above quotation shows that the organizers of the chamber have the right viewpoint. In it may be seen a spirit of cooperation not only among the citizens of the United States who represent the interests of their own country, but also between them and Brazilian firms who may be interested in extending their trade with the United States. To build up a lasting and profitable trade between nations it is necessary that such trade be reciprocal and mutually profitable. In other words, it is the province of organizations such as this chamber to open up markets for the products of each country in the other. It is not enough for the representatives of United States exporting firms to organize and to cooperate for the purpose only of selling their products to Brazilian importers and merchants; they must also cooperate with the Brazilian exporters in finding markets in the United States for Brazilian products. To accomplish this end, no better way could be devised than to encourage Brazilian firms and individuals to become active members of the organization.

Mutuality of interests is the surest factor in the promotion of a permanent trade. To insure that mutuality it is just as necessary to seek to increase the market for Brazilian rubber, coffee, cacao, yerba maté, hides, etc., in the United States as it is to seek to increase the demand in Brazil for United States manufactured products, and an organization such as the American Chamber of Commerce for Brazil, composed of representatives of commercial interests of both countries, advantageously located in the leading commercial city as well as capital of the country, is eminently fitted to accomplish this end.

Another fact indicating that the spirit of cooperation between the representatives of the two countries in the chamber is real and earnest is the bilingual feature of the Quarterly. Some of the leading articles are in Portuguese while others are in English, so that Brazilian members are afforded the same opportunities of expression in the official organ as are the United States representatives.

The plan and policies of the organization seem therefore to be laid along broad lines, and its beginning is altogether auspicious. That it will become a power in promoting the cordial social and commercial relations between the two countries is almost a foregone conclusion, and its organizers and officers are to be congratulated on their enterprising spirit and sound judgment. May the American Chamber of Commerce for Brazil live long, thrive, and prosper.

ANCIENT TEMPLES AND CITIES OF THE NEW WORLD¹

TIKAL.

IN the northernmost section of beautiful Guatemala lies the Peten District, the largest Department of the Republic, but one concerning which comparatively little is known. A population of about 10,000, claimed by some to be descendants of the Maya race while by others to belong to a branch of the royal family of Quiches, inhabits this region. Picturesque lakes and the waters of the Usumacinta, Passion, and other rivers render the soil fertile. The waters abound in fish, alligators, and turtles. On the shores the white heron, the iguana, and Saraguato monkey make their home. Commercially, the Peten region is known for its rich mahogany yield and for the supply of chicle, the basis of chewing gum, drawn from the chico-zapote trees. Bounding Peten on the north are the Mexican States of Campeche and Tabasco; on the east, British Honduras; on the west, the Mexican State of Chiapas; and on the south, the Departments of Verapaz and Izabal.

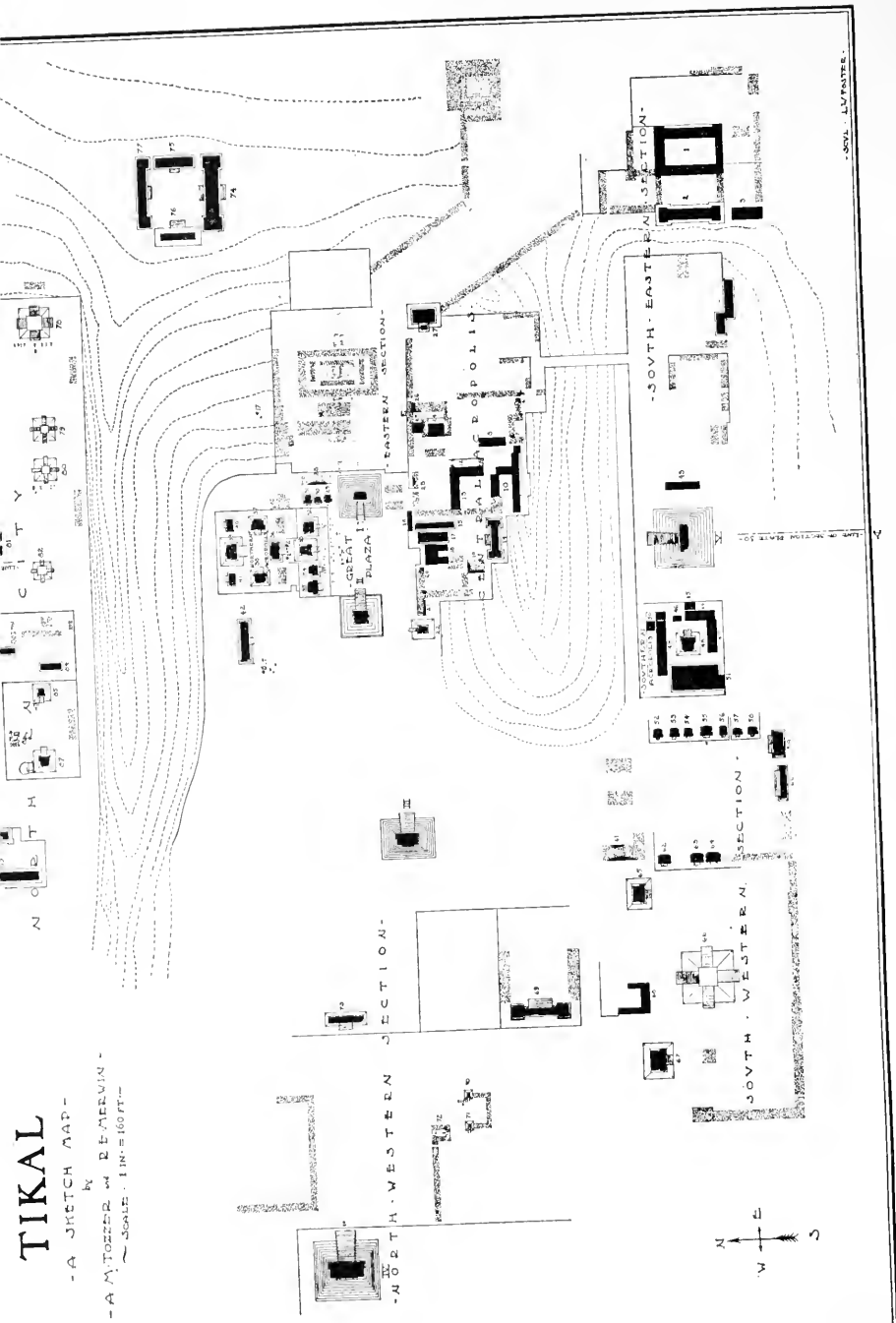
The student of archaeology will at once recognize in these territorial boundaries a great area of historic treasures of American antiquity. From the surrounding districts scientists have brought to light remarkable ruins of ancient Maya cities bespeaking high degrees of civilization. These palaces and temples have puzzled and fascinated students, but have withstood all attempts to accurately trace and fix their origins and histories. The accessibility of many of these treasure spots has encouraged frequent explorations, and a fairly satisfying literature has been written concerning them. But quite limited is the available information about Tikal, an old Maya city of Peten, situated in practical isolation. Because of the difficulties in reaching the place and the hardships which must be endured during explorations, the number of visitors and students has been comparatively small and the literature is not as voluminous as that of other ancient cities. Yet the few facts which have been determined are strikingly interesting and important in view of the effort to trace the development of this ancient civilization.

So far as is known Tikal is the largest of the ancient cities in the Maya area; its ruins occupy approximately 1 square mile. According to the few dates that have been found and deciphered, it seems certain that, in point of time, it was one of the first Maya cities to become a center of art and culture. While it has not yielded as many sculptural

¹ By Harry O. Sandberg, of Pan American Union staff.

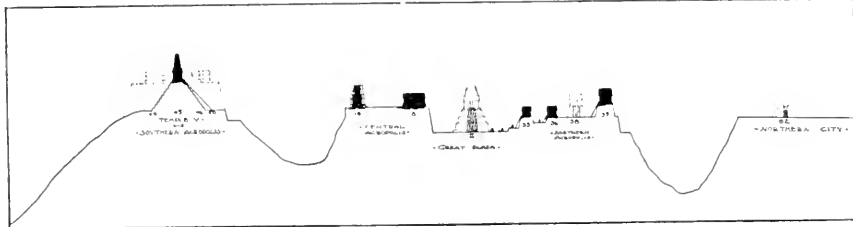
TIKAL

- A SKETCH MAP -
 BY
 - A. M. TOZZER AND REMEYER -
 SCALE: 1 IN. = 160 FT.



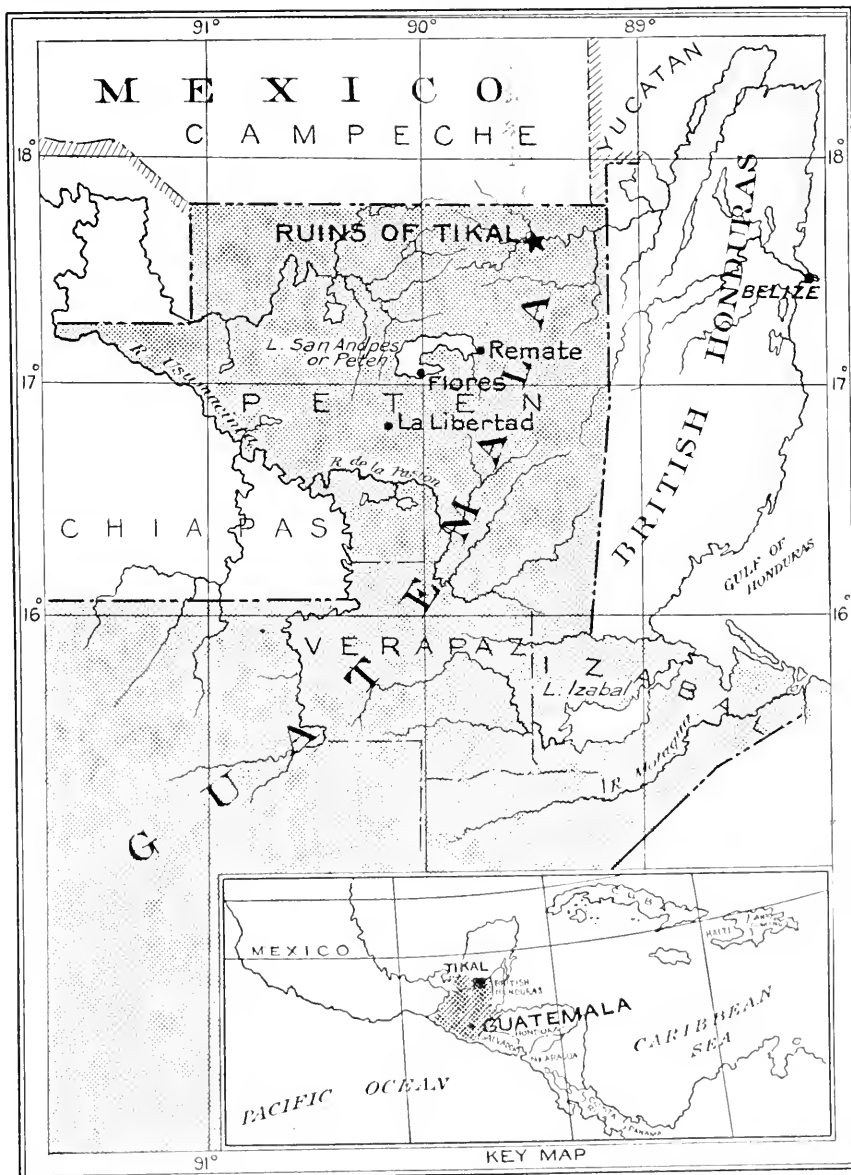
SKETCH MAP OF THE TIKAL RUINS.

The formation of the various groups of buildings and temples suggests a natural division into nine sections. The principal feature of the ruins are the five great temples. Temples I and II are in the main plaza; Temples III and IV are included in the northwestern section; Temple V adjoins the southern acropolis.



CROSS SECTION OF TIKAL RUINS.

Plan showing the northern city, the great plaza, and the northern, central, and southern acropoleis. These latter are great natural hills, leveled off and terraced. The middle acropolis, the largest of the three, was not important as a place of religious worship, since the buildings upon it are almost exclusively for residence, probably for the use of the clergy. If stelæ and temples are the criteria of importance, the acropoleis are not the main features of the city since neither abundance of stelæ nor numerous temples adorn these terraces.



LOCATION OF THE RUINS OF TIKAL IN THE DEPARTMENT OF PETEN, GUATEMALA.

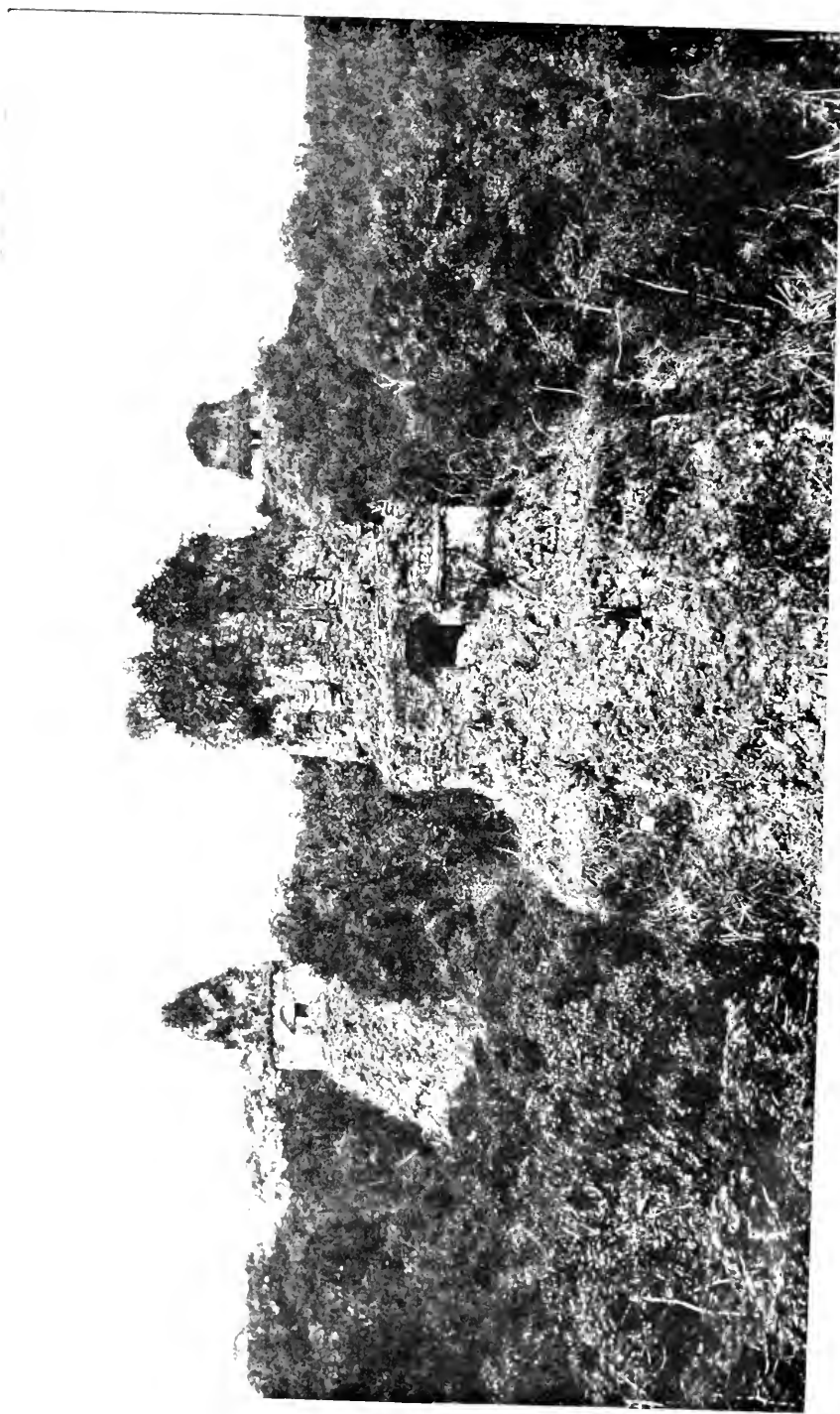
The ruins are situated 30 miles away from El Remate, a little town on one end of Lake Peten-Itza. Access to them is difficult and exploring in this region is attendant with much hardship. They are located, however, in the midst of the great Maya area.

specimens as other Maya ruins, yet the few ornamented monoliths and circular altars that still preserve their figures and inscriptions indicate an archaic period as well as a period of greatness. Altogether the city is believed to have covered a period of occupation of nearly 400 years.

Tikal is located in the junglelike forest about 30 miles from a little town called El Remate. This latter is situated on one end of Lake Peten-Itza, with its island town of Flores, known in ancient times as Tayasal. A day's ride from Flores is La Libertad, the headquarters of mahogany cutters and the residence of the jefe politico of the Department of Peten. It is from La Libertad as a starting point that the trip to Tikal is best accomplished. Aside from the difficulties entailed in clearing away the heavy forest and jungle growths, the explorer faces an especial discomfort in the absence of a water supply. Every drop has to be brought a distance of a mile and a half from an overgrown muddy lagoon, and must be boiled and filtered. It is quite probable that during the flourishing days of Tikal the ancient inhabitants stored water in the "chaltunes" or underground cisterns which are found in large numbers amongst the ruins of northern Yucatan.

Alfred P. Maudslay visited the ruins in 1881 and 1882. His monumental labors are described in his book, *A Glimpse of Guatemala*. Dr. Gustave Bernoulli did some little exploring in this region five years prior to Mr. Maudslay and carried off some splendidly carved wooden beams which spanned the doorways of the temples. Desiré Charnay, who for nearly a quarter of a century (1857-1882) traveled and explored in Mexico and Central America and has rendered valuable contributions to the literature of American archæology, depends on Maudslay for his descriptions of Tikal. In more recent times, Teobert Maler made extensive studies in the Department of Peten, especially at Tikal, under the auspices of the Peabody Museum of American Archæology and Ethnology of Harvard University, in 1895 and in 1904. Mr. Maler spent a longer time at the ruins than has any of the other explorers. In 1910 another expedition under the auspices of the Peabody Museum, with Alfred M. Tozzer in charge, continued the splendid work of Mr. Maler. In 1914 Herbert J. Spinden and Sylvanus G. Morley, both well-known authorities on Mayan art and archæology, made a trip to Tikal and secured important data on special subjects. Mr. Morley was interested particularly in the dates of the monuments, while Mr. Spinden studied the chronological changes in sculpture which took place during the period of occupation and also the system of temple decorations.

As is characteristic of most Maya cities, the plan of Tikal embodies a large court or main plaza, together with a system of oriented courts, all connected with one another, and with a few detached buildings.



VIEW OF THE RUINS OF TIKAL.

Photograph taken from Temple I looking west and showing, from left to right, Temples II, III, and IV. So far as is known Tikal is the largest of any site in the Maya area. Its ruins occupy approximately 1 square mile. It is also one of the first to become a center of Maya art and culture.



TEMPLE I AT TIKAL.

The pyramid of this huge structure closes the main square on the east and rises on a projecting base in nine graduated steps, recessed at the corners. Below on the square, close to the stairway, formerly stood two large thick stelae, each with a circular altar before it. Both are now fallen to the ground and a careful examination showed them to be without sculpture of any kind.



TEMPLE V AT TIKAL.

According to one Maya chronologist, this was the first temple to be built and Temple I, above shown, one of the later structures. The nine graduated steps are also present here. The frieze is high and shows faint traces of five large fantastic ornamentations. Above the roof terrace rises the stupendous tower-like roof comb with backward slope still plainly showing three of its original sections. Possibly a fourth and fifth section with window perforations, now broken down, surmounted the whole. The façade of

The unit in the groupings seems to be the quadrilateral court, around each side of which there are one or more buildings. Isolated buildings having no relation to a court are comparatively rare. The courts vary in size from the main plaza, with a breadth of over 300 feet, to small inclosures surrounded by low mounds. According to Maudslay, the position and form of the buildings are due to astronomical considerations and not designed from the point of view of defense.

The buildings at Tikal are in a better state of preservation than are those of any other Maya site, with the exception of the ruins in northern Yucatan, which are admittedly of later date. This is especially noteworthy when it is recalled that Tikal is probably the oldest of the Maya cities, its architecture exceedingly ponderous, and that the builders developed better constructions as time went on. The buildings, especially the pyramid temples, are solid and with very thick walls. The numerous structures of the residential type are also in excellent state of preservation as regards their lower story. The crumbling of the second tier of rooms has tended to cover and protect the lower part of the building, so that the lower stories are as firm and solid as the day they were built.

Practically all the buildings are built upon some form of artificial mound. In the case of the temples, the mound takes the form of a truncated pyramid. It is a notable fact that the pyramids at Tikal are higher and steeper than at any other Maya center. The sides of the pyramids are made in great steps or terraces, faced with stone, and often inset at the corners and paneled at the sides. Access to the temple is gained by a single stairway only, instead of by four stairways, one on each side of the mound, as is noted at Chichen-Itza.

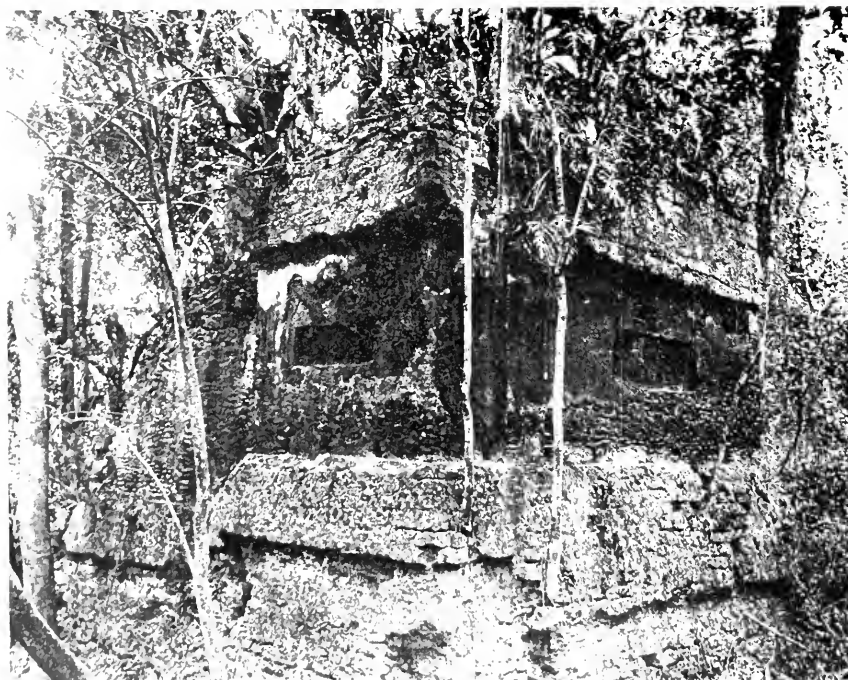
In no other Maya area is there such uniformity and similarity in the plans of the great temples. As a general rule, they contain three chambers, one behind the other. The floor of the two back rooms is raised slightly above the level of that in the front room. In the residential buildings there appears to be a great diversity of plans, no two being exactly alike. They range from two to five stories in height and some of these buildings contain up to 40 chambers. These were probably the homes of the priests. In these residences the rooms run longitudinally in two rows along the length of the building, with one or two transverse rooms at either end. They sometimes form a court by themselves or perhaps form one or more sides of a court, the other sides of which are occupied by temples. Frequently there is a close connection between a building for dwelling purposes and that for worship.

The temples show a greater thickness of wall than the residential buildings, and the room space in Tikal is smaller in proportion to wall space than has been noted anywhere else. The fact that the



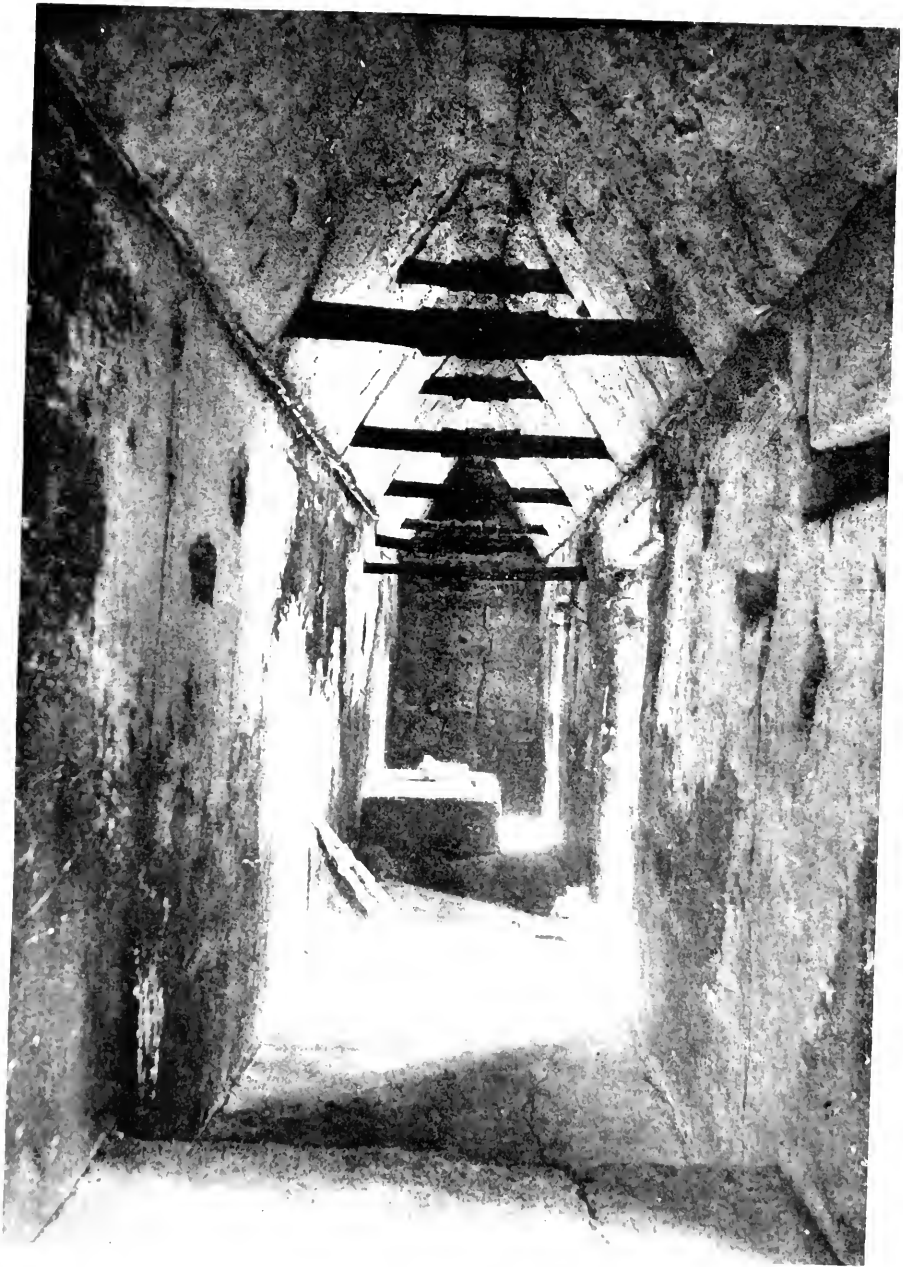
PALACE OF FIVE STORIES AT TIKAL.

The largest structure of the whole group and regarded as a sacerdotal palace. In the third story five richly carved lintel beams have been found. The relief work seems to represent a woman of rank presenting the high priest with the sacrificial gift of a well-fattened turkey. The scene probably illustrates the custom of making sacrificial gifts to the revered or feared priest. The fragments of frieze work on the third, fourth, and fifth stories are shown here.



ONE OF THE SMALL TEMPLES AT TIKAL.

In addition to the five main temples and the buildings which housed the priests, there are a number of smaller temples built along the same lines and plan as are the principal ones.



A CHAMBER IN ONE OF THE RUINS AT TIKAL.

Three rooms were the general rule in the main temples. In the other structures, however, there were as many as 30 and 40 chambers, depending on the size and height of the building. Attention is called to the wooden lintels, and the stone bench in the rear. On the walls of these rooms have been found writings and drawings of various characters.

principal temples crowning steep and high pyramids were themselves topped by a lofty roof structure necessitated this heavy wall for support. From their cumbersome nature it may be reasonably supposed that the Tikal roof structures represent the first attempt in this direction by the Maya. The walls are made of slabs of limestone set in a plentiful supply of mortar and covered up under a liberal coating of stucco, and upon this the occupants skilled in writing and designing made incised drawings, presumably with the pointed flint or obsidian knife peculiar to that period. Wooden beams placed over doorways and elaborately carved wooden lintels are a common form of embellishment at Tikal. The finest specimens of these decorated lintels are believed to have adorned Great Temple IV and are probably the ones that Dr. Bernoulli succeeded in sending to the museum at Basle. The British Museum possesses two small fragments of decorated lintels while the Peabody Museum boasts of casts of a number of them. Small perforations, sometimes round and sometimes square, are found in the walls of buildings, probably for ventilation purposes. Benches occupying a space touching the back wall in front of a doorway, or taking up the greater part of the room have also been found here.

In the wealth of stelæ and circular altars Tikal, according to Maler, is unequaled among all the known ruined cities. Over 100 stelæ can be found there, and nearly every one with its own circular altar. A comparatively small number of these show the splendid bas-relief work of Mayan art. Maler is of the opinion that all of these stelæ were at one time covered with a smooth coating of stucco, upon which all kinds of figures and picture writing had been executed, or that, at any rate, they had been covered with fiery red paint and that the altars were also painted red, but that these decorations have since disappeared through the ravages of time and the elements.

Quite contrary to the natural supposition, the greater number of these stelæ and altars are not placed in front of the five principal temples, but before the smaller ones some distance away from the main plaza, undoubtedly for worship, where only a chosen few took part. Only seventeen of the monuments thus far studied show signs of decoration. An interesting statement by C. P. Bowditch, the noted Maya chronologist, concerning the decipherable dates noted in the stelæ at Tikal, is contained in Mr. Spinden's work on Maya art. According to Mr. Bowditch's conclusions, one of the dates found here is the earliest known and gives evidence, first, that Tikal was occupied before the other cities and perhaps was the center of Central American civilization; secondly, the date in question antedates by 125 years the oldest stela at Copan; and, thirdly, that the stela which shows the highest skill in carving and mastery of modeling is contemporaneous with the best period of Copan civilization.



INCISED DRAWINGS ON THE WALLS OF THE TEMPLES AND BUILDINGS.

On the stucco walls explorers have found incised drawings embodying a great variety of figures and designs, different from those carved in stone but which students believe might be compared with Maya or even with Aztec picture writing. Many of the figures are strangely suggestive of similar figures in the Dresden and Nuttall codices, the highly illuminated parchment writings. This similarity presents the possibility that the Dresden codex might have come if not actually from Tikal, then from some Maya city in the present Department of Peten, and have been sent as a sample of Maya picture writing to Europe.



CARVINGS ON THE STELE FOUND AT TIKAL.

Left: Stela 1, south side. Right: Stela 3, south side. Only a small number, 17 in all, of the stela found at Tikal show carvings of a worthy character. These have been arranged stylistically into 4 groups. Stela 3 belongs to group 1. Here the human figure is shown in profile and in low relief; the proportions of the body are slender and there is no cumbersome mass of dress or ornament. The figure faces either right or left, one hand grasps a ceremonial staff resting upon the ground, while the other hand carries a decorated pouch. The blocks of stone upon which the figures are carved do not show careful quarrying. Stela 1 belongs to group 2. It was probably a companion piece to another monolith. Instead of staff and pouch the figure holds a ceremonial bar. This bar has a straight central panel, and each serpent head shows the complete manikin god sitting upon the lower jaw. The sides of the stela present a confused mass of supernumerary heads attached to a chainlike object that may represent a serpent body.

A glance at the accompanying sketch map of the ruins of Tikal shows that the site, according to Tozzer, divides itself naturally into nine sections, viz:

1. The southeastern and low-lying part of the city.
2. The Central Acropolis, bounded on the north by the Great Plaza and on the south by the southern ravine.
3. The eastern section, to the east of the Great Plaza and north of the inclined way.
4. The Great Plaza, with Temples I and II.
5. The Northern Acropolis, bounded on the north by the northern ravine and on the south by the Great Plaza.
6. The Southern Acropolis and Temple V, bounded on the north by the southern ravine and on the south by a second ravine.
7. The southwestern section, bounded on the north by the shallow ravine. * * *
8. Northwestern section, including Temples III and IV.
9. The Northern City, separated entirely from the main part by the northern ravine.

In this grouping the most prominent architectural features are the five great pyramid temples, indicated by numerals I to V. There are also numerous smaller temples similar in plan to the large ones, and a large number of residential structures, of which the Palace of Five Stories is the most notable.

This building, sometimes referred to as the Five-Storied Sacerdotal Palace, is a stupendous structure dominating the Central Acropolis, and has the Great Plaza for a northern boundary and the deep ravine on its south. It is detached, and in a fairly good state of preservation. The unbroken north wall shows an elaborate molding of stucco. Maler regards this building as the sacerdotal palace belonging to Great Temple V, though Tozzer fails to discover any evidence upon which to base a connection between this edifice and the Temple V. The deep southern ravine, he contends, was between the two and intercourse would not have been easy. Elaborately embellished wooden beams, ornamental friezes, stuccoed walls with incised drawings, are among the decorative features of the various chambers, though in a rather deteriorated state. The original height of this building was about 90 feet and it contained all told about 38 chambers. This palace, with its populous architectural surroundings, according to Maler, should be regarded as the Acropolis of Tikal, and it probably afforded a magnificent spectacle from the terrace forming the approach to Great Temple V.

As to the five great temples, these have a definite type of ground-plan with very little variation in the essential parts. In all cases the room space is a very small proportion of the area covered by the walls. The roof structures are responsible for the heavy construction. The temples with the larger proportions of room space may possibly indicate advancing progress in construction; or, it is just possible that the varying size and character of the roof structures may account for the differences in floor space. Both theories are mere matters of conjecture.



STELA 16, SOUTH SIDE, AT TIKAL.

This monolith belongs to group 1 and is carved upon a large block of stone with straight sides and rounded tops, carefully trimmed to shape. The stela represents an elaborately dressed figure standing with the body in front view and the head in profile and supporting in the two hands a ceremonial bar of unusual type. The figure stands out clearly against the plain sunken background. It is set up at some distance from the main plaza, and before it lies the highly embellished altar 5.

The following table showing the total height of the five great temples and their pyramids is given by Maler:

Great Temple I. Height of pyramid, 29.5 m. Height of temple, 17.7 m. Total, 47.2 m. (approximately 155 feet).

Great Temple II. Height of pyramid, 21 m. Height of temple, 22.5 m. Total, 43.5 m. (approximately 141 feet).

Great Temple III. Height of pyramid, 32.5 m. Height of temple, 21.7 m. Total, 54.2 m. (approximately 178 feet).

Great Temple IV. Height of pyramid, 45 m. Height of temple, 24.7 m. Total, 69.7 m. (approximately 227 feet).

Great Temple V. Height of pyramid, 35.5 m. Height of temple, 21.8 m. Total, 57.3 m. (approximately 187 feet).

Upon the basis of comparative floor space Spinden asserts that the five principal temples fall into the following order of construction: V, IV, III, I, and II. If this order be accepted, a natural doubt arises why Temples I and II, which face the main plaza, clearly the most important part of the whole city, should have been the last to be constructed. Furthermore, if Temple IV was the second in point of sequence to be constructed, it seems inconsistent that the best specimens of carved lintels, showing a high degree of advancement in that art, should have been found there.

Adjoining Temple I are a number of minor structures or temples very similar in plan to the great pyramid structure. From the doorway of the temple there is a splendid front view of Temple II, lying opposite, with III, lying a little to the left, and the more distant IV to the right, rising in the background above the sea of forest trees. Painted above the entrance to one of the chambers in this temple appear large white hands, surrounded by red splatterings and a few red hands. Maler makes the following interesting observation concerning their significance:

There can be no doubt as to a difference in the meaning of the red hands and the white, though we do not know what it is. After inspecting the red and the white hands I examined those smooth walls very closely for incised drawings and discovered the roughly but deeply incised figure of a dancing devil! It was evidently incised by the hand of an ancient priest after this grand old Maya city was abandoned by its inhabitants, and the contemplation of it aroused a feeling of bitterness and melancholy in the breast of the beholder, and served as a reminder of the transitoriness of all earthly splendor. This devil, showing his teeth in a mocking grin and dancing in the abandoned halls of the proud temples and palaces of Tikal, only proves once more how true it is that whenever human endeavor after fearful struggles has attained to a certain high degree of civilization it is destined to decline and fall according to an inflexible cosmic law. Thus it was with Babylon and Nineveh, Memphis and Thebes, Carthage and Palmyra, "the devil is dancing everywhere"—and so will it ever be!

As a general rule, the base of these various temples is plain and with smooth walls. The upper section consists of a highly ornamented frieze, the central figure of which is a grotesque face. One side of the roof comb carries elaborate decorations. Three chambers



THE MOST ATTRACTIVE ALTAR STONE AT TIKAL.

his altar, No. 5, facing stela 16, is the most remarkable of the altar stones found at the ruins. It was discovered in the bowels of the earth after difficult excavating and will probably become as famous as the Calendar Stone of Mexico. Its seclusion in a little court with a single entrance proves that a large number of spectators could not possibly have witnessed the ceremonies performed near it and is indicative of its special sacredness. One of the prominent figures is that of a deity holding in his right hand against his breast a staff, and in his left hand, hanging down at the side, the pointed sacrificial knife of flint with strips of leather suspended from the handle.

constitute the usual number of rooms in each temple. Highly ornamented door beams and lintels span the entrances.

Temple II occupying the west end of the square is another pyramided structure. A circular altar without the usual accompanying stela fronts the stairway which leads up from the plaza to the platform upon which rises the temple. Some of the beams supporting the door arches have been torn away, probably carried off because of their ornamental character, causing the masonry to cave in. The carving on the beams which remain represents a sumptuously dressed priest. Upon the smooth, whitened walls of the apartments of this temple were discovered some interesting incised drawings. Here, too, there is the characteristic roof comb, built up in three sections. On one side appears the usual carving of figures.

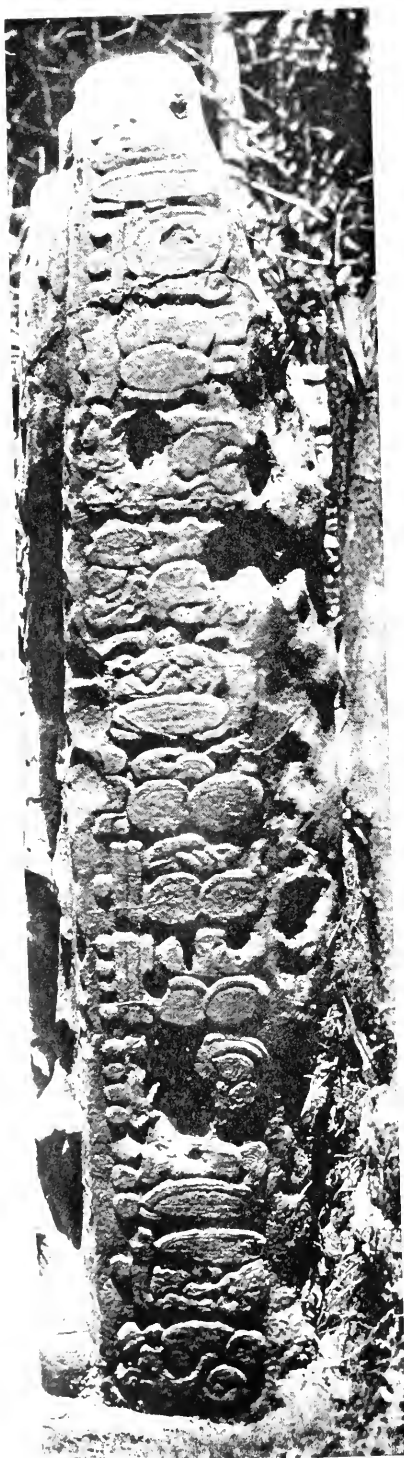
Temple III is situated a little west of Great Temple II. This edifice has but two chambers, and the doorway of one of the chambers appears to have been spanned by 10 beams very richly carved in bas-relief on the underside, of which the first and tenth have been lost or carried away. The other eight beams seem of sufficient importance to have received the following description from Maler:

The first and tenth beams being counted out, the carving occupied the remaining eight and showed three personages nearly life-size, most elaborately attired, their faces drawn strictly from the side, displaying the familiar, pleasing Maya profile. The personage of high rank in the middle holds out a staff of ceremony and has a fantastic head attached to his back. Opposite the central figure stands another personage of high rank stretching out in his right hand a staff of ceremony toward the former. Behind the central figure is a third in a stooping attitude raising the right hand and holding a ceremonial staff in the left. Between the two latter figures is a small altar (?) with rounded corners ornamented with crosses and disks, while above the stooping figure there is room for the half-length picture of another personage with an agreeable profile. The drawing of these sacerdotal forms and their elaborate accessories is excellent and spirited.

The intervening space between Temples III and IV is filled out architecturally by a line of three palaces of great length. The central one, now wholly in ruins, probably had but one story while the other two plainly had two stories. To the west of these three structures are two small temple pyramids, one behind the other, and then comes the lofty terrace upon which is piled the very large pyramid of Temple IV.

Temple IV is built like the other temples and has the conventional three chambers. The carved lintels of the doorways have been torn out, and, as already stated, are probably the ones which Prof. Bernoulli sent to Basle. A fantastic head marks the chief ornamental theme of the friezes of the wall. The roof comb of this temple has figures and scrollwork on an enormous scale.

Temple V, also a massive structure, does not seem to differ in its main characteristics from the other great temples.



CARVING ON STELA AND DOORWAY LINTEL AT TIKAL.

Left: Stela 10, east side. Right: Lintel of a doorway in Temple 11. Stela 10 belongs to group 3. The figures are carved in high relief. A new feature in this design is the representation of a captive who lies on the ground just behind the standing figure. The carving represents a sumptuously dressed priest and contains excellent detail work. The lintels shown in the illustration are two distinct beams.

The figures inscribed and carved on the altars at Tikal display the greatest variety and license regarding personal adornment. Female characters are scarcely ever met with on these smooth walls. Priests and scribes were probably the chief inmates of the monumental edifices and mirthful or amorous allusions were precluded among men leading lives of serious meditation.

The hundreds of small mounds and chultunes stretching in line from Tikal eastward and the large number of important sites in the vicinity show that this city was the center of a large population. As already noted, the few dates that have been deciphered place it among the very oldest of the Maya cities. It is true that there are no accounts concerning the abandonment or destruction of Tikal nor can it be actually proven that this city had ceased to exist at the time of the Spanish conquest. That this is probably so, however, is to be deduced from the fact that in all the Spanish accounts of the invasion and conquest of this country there is absolutely no mention whatever of those cities. Frequently the conquerors wandered through jungle and forest. Soldiers and scouts sent on ahead in search of food and supplies are known to have been within a day's march of some of these ancient Maya cities and it is extremely difficult to believe that a living town or great religious center, such as Tikal, could, under the circumstances, have been overlooked.

THE RESTORATION OF EUROPE.¹

After the European war is over—then what? That is a query which constantly presents itself to thoughtful minds. What is to be done to regenerate and to rehabilitate that torn and broken continent? To answer these questions Dr. Alfred H. Fried, the eminent Austrian pacifist, has written a thoughtful little book, the English translation of which has recently come from the press, under the title "The Restoration of Europe."

Dr. Fried, it will be remembered, is the editor of the pacifist organ known as *Die Friedenswarte*, published in Zurich, and in 1911 was the winner of the Nobel peace prize. He is the author of some sixty-odd works dealing with the peace movement, and the founder of the German Peace Society in Berlin. His latest production is therefore naturally written from the pacifist viewpoint. Of special interest to

¹ "The Restoration of Europe," by Dr. Alfred H. Fried. Translated from the German by Lewis Stiles Gannett. New York. The MacMillan Co. 1916. Price \$1.

American readers of the book is the important rôle assigned by Dr. Fried to the United States in the work of reconstruction and restoration to a permanent peace status of the war-torn countries, as well as the fact that he sees in the Pan American Union the model for a Pan European Union, which he deems essential to such restoration. The scope of the work may be gathered from the following brief summary of the table of contents:

In Chapter I he deals with "The causes of the war," and holds that it is imperative that representatives of the various nations meet after this world catastrophe to discuss means of avoiding its repetition. When we distinguish its underlying causes from its immediate occasions, we find that the present war is the logical outcome of the kind of "peace" which preceded it. Although the industrial and technical advances of the last century have made the world interdependent in a sense previously undreamed of, there has been no political adjustment to the changed conditions. More intimate relations gave increasing opportunity for friction, which, so long as the irrational condition of international disorganization persisted, inevitably led to war. War being inevitable, it became the duty of each nation to seize the most favorable moment. The "peace" was really a state of latent and constantly threatening war.

Chapter II deals with the "Age of international anarchy." History, from primitive man to Pan Americanism, is a record of increasing organization. The final step of world organization will be a product of association rather than of force. Imperialism, supported by the twin fallacies of mercantilism and nationalism, is a false philosophy. It defeats its own endeavor to open markets and give nationality free play. It attempts to achieve national security by competitive armament. But the value of armament is purely relative, and every nation can not have an armament superior to that of every other. The armament system has, indeed, led to the system of alliances, a valuable if partial form of association. The fact that this war could not be localized demonstrates the real interdependence of the world. Pacifism would achieve national security by realizing this interdependence in political and economic association. The Hague conferences have made a significant beginning, but international relations must be changed before their work can be effective. The war has demonstrated the necessity of continuing the evolution out of international anarchy into international organization.

Chapter III deals with "The war's lessons up to date." The war has demonstrated that armaments are a symptom of international anarchy and can not insure peace. The cause must be attacked. By their intense sensitivity, armaments have actually become a menace. Dilatory treatment of international disputes, such as is provided for

in the Bryan treaties, will usually obviate war. But the mere provision of such machinery without the will to use it is inadequate. Again, the war has demonstrated that attempts to humanize war are futile because self-contradictory. War suspends morality, and can not be regulated. This war has been more cruel than past wars not because men have been more cruel, but because its area has been so vast and its battle field so highly civilized. The war has further demonstrated the futility of war as a political instrument, and destroyed the magic of military romance. Finally, it seems to confirm the prophecy of Jean Bloch that a modern world war would be so tremendous that it could only end in exhaustion and could hardly lead to any decisive result.

Chapter IV treats of "The treaty of peace and future peace." According to the author, this war really began decades ago. What was called "peace" was latent war. The coming treaty of peace must establish a durable peace. All the nations are supposedly fighting for a "lasting peace"—not realizing that there is no such thing as a lasting peace maintained by force. Peace must be cooperative. The old status of perpetual fear and insecurity, defended only by armaments, would be intolerable. A different system must be established. There might well be two conferences after the war—one to attend to the mere cessation of hostilities, the other to lay the foundations of a new European organization. In this last the neutrals would join.

Chapter V gives the author's ideas as to the international problems involved in the restoration. The organization of nations need not be compulsory, but should rest upon the interest which the individual states have in cooperation. Secret diplomacy and its elaborate etiquette are outgrown and have become dangerous. An antiquated conception of sovereignty is one of its most dangerous idols. Diplomacy should be democratized. The system of alliances (balance of power) avoided some wars, but it nourished suspicion and distrust, and thus enhanced the ultimate danger of war. A general European alliance would give real security. Reduction of armament and the regulation of the jingo press are other considerations dealt with.

Chapter VI, entitled "The cooperative union of Europe," embodies the author's ideas as to the form of union into which the European countries must enter in order to effect their restoration, and since his proposed Pan Europeanism is to be largely modeled after the Pan Americanism of the Western World it may not be amiss to quote this chapter in extenso.

In the previous chapter we saw under what conditions the organization of Europe might be extended. Attention was called to the fact that no artificial construction was to be considered, but rather the development of the germs of organization already

at hand. Europe must grow into the new community, just as in the past it grew into anarchy. The old historic units must be combined, not as parts of a federation, but rather as independent members of a great union created for a specific purpose. It is true that war is a political phenomenon, but it would be false to assume that the organization which is to supersede it must therefore be of a political nature. On the contrary, experience demonstrates that political unions such as our present-day alliances finally lead to war. If our purpose is to promote the association of states for the furtherance of their numerous nonpolitical common interests, we shall meet less opposition than if we attempt simultaneously to organize them politically. In the long run a close association in economic, technical, social, and ideal fields will inevitably make itself felt in political relations as well. Following the line of least resistance, there will eventually be a complete form of international organization.

If this war, as appears to be the case, demonstrates the impracticability of the old notions of subjugation, and if at the same time the realization grows that in Europe, with its confusion of politics and nationalities, federation is impracticable, then the idea of such association will triumph. It will be clear that Europe is not going to become Cossack by conquest nor Republican by federation, and that its future lies rather on the diagonal of these forces. It is a "cooperative union" (Zweckverband) which promises the solution. The conception is a compromise; it overcomes obstacles that would interfere with any other plan. The name indicates that in such a union, without sacrificing the independence of the participants, certain specified interests can be better represented by common action. The states are not to be sacrificed to any final purpose, as in the case of a political federation; rather the purpose shall be service to the states. They will no longer aspire to solve their problems individually, by the method which has so often led them to dissipate their energies in futile struggle against one another; but cooperatively, with great economy of effort and energy, they will meet the difficulties, which, in most cases, will cease to be such simply because of the joint action of the interested parties.

The Cooperative Union of Europe, even before the war, had ceased to be a mere demand. It already existed in a number of bipartite and general international agreements and in various international bureaus and commissions. Many matters of transportation, commerce, civil law, police, science, social policy, and agriculture were already internationally regulated.

These international agreements and the various international activities to which they gave rise constituted a beginning of an international administration. But they lacked unity; there was no centralization. They had arisen mechanically in response to changed conditions, and there had never been any deliberate, farseeing organization of them. The age of anarchy had not the power for such an achievement. When the war is over the time will have come to develop those institutions and to organize them with the definite purpose of meeting the demands of the international situation. Thus the cooperative union of Europe will find its foundation already laid. * * *

The creation of such a cooperative union would not be without precedent. Such an institution has existed for more than a quarter of a century in the Western Hemisphere in the Pan American Union, which, rather than the constitutional form of the United States, is adapted to serve as a model for the new European union. Eighteen American republics met in 1889 in the First Pan American Conference. This continental congress has met four times. The fifth conference was to have been held in November, 1914, but was postponed on account of the war. The Pan American Union led to the establishment in Washington of the Pan American Bureau, which is supported by the 21 republics. The administrative board of this international bureau is composed of the accredited diplomatic representatives in Washington of the various American Republics, and the Secretary of State of the United States presides.

The discussions and decisions of the conferences cover the whole field of the extra-political relations of the American Republics. They have to do with the regulation

and extension of railways and of navigation; of tariff problems; of harbor rights; of consular affairs; coinage, weights, and measures; sanitation; regulations for aliens; extradition; further, the regulation of civil law, patent rights, copyrights, scientific enterprises, and the conclusion of arbitration treaties. An extensive program for the furtherance of international intercourse by means of exchange professors and scholars, travel, promotion of instruction in languages, etc., has been undertaken. Especial attention has been paid to the encouragement of trade and commerce by exchange of information, by expositions and museums of commerce.

It will occasion no surprise that Pan Americanism, despite its purely economic and social program, has reacted upon political life as well. Years of peaceful cooperation between nations and their representatives strengthen confidence, engender a habit of mind which does not presuppose hostile intentions in one's neighbors, and in critical issues reenforces the determination to let rational considerations decide. Arbitration and mediation have reached their highest development on the American continents. The peaceful cooperative union expedites peaceful settlement of such disputes as inevitably arise.

Pan Americanism is not only a model for Europe; it is a warning as well. Before the war there was much talk of the American menace, by which was meant economic competition. It exists, but in a different form. A continent so organized will only too easily win precedence over divided Europe. If that disorganization which has led to war should continue after the war, the danger of the associated States of Pan America outstripping Europe will be far greater. The war has changed the relative position of Europe and America, and not to the advantage of Europe. Europe will lag behind America because of its disorganization and also because of its exhaustion. Hence a cooperative union must be formed, that a united Europe may meet that united continent across the ocean, not for attack, but to make further cooperation possible.

The author furthermore suggests that a Pan European bureau, exercising wide powers in cooperation with the permanent delegates of the various countries, should be established in the capital or in a leading city of a neutral European country, and that while The Hague conferences and The Hague bureau would develop the legal relations of the nations, the Pan European bureau and the Pan European conferences would control the extension and regulation of international relations in actual practice.

In the seventh and last chapter of the book the author deals with "The pacifism of yesterday and of to-morrow," in which he asserts that pacifists maintain that wars are inevitable so long as international anarchy persists. They foresaw the present war. Nor has pacifism been without its effect upon scientific and popular thought. The future is in our hands, and it is for us to determine whether it shall be a reversion to barbarism or an era of restoration.



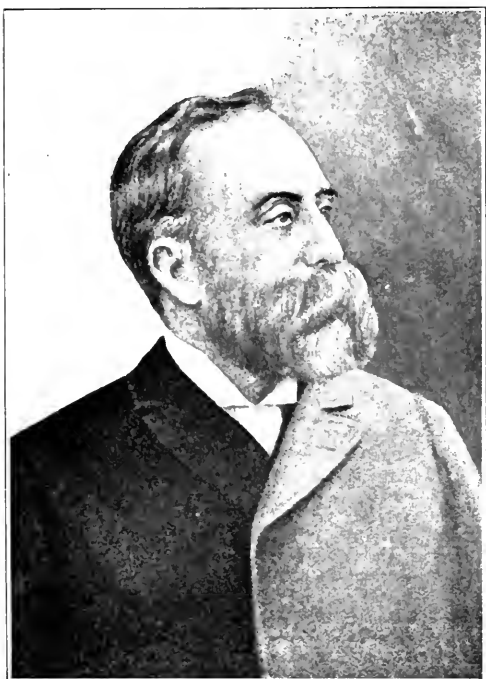
PROMINENT IN PAN AMERICAN AFFAIRS.

ON the 13th of July there passed away at Managua, Nicaragua, Sr. Dr. ADAN CARDENAS, at the ripe age of 81. His death brought forth eulogies couched in terms of highest affection and esteem. Dr. Cardenas had lived a life of honor and usefulness. He had served his country as President as well as in lesser offices. When not in public service he practiced medicine and surgery, in which profession he had acquired skill and prominence. As a benevolent physician or as an honorable and progressive public servant, he won the deepest admiration of those with whom he came in contact. His death was lamented both in Nicaragua and in neighboring Central American countries, where he was known and respected for his loyalty and broad spirit of brotherhood.

Dr. Cardenas was born in the city of Rivas, Nicaragua, in 1835. At the age of 12 he was sent to Italy. In Europe he continued his studies, which terminated at the conclusion of his course in medicine and surgery. On his return to his native country a successful practice combined with his notable qualities brought him into public life. He served as Deputy and Senator in the National Congress, and in later years sat in the cabinet as Minister of Foreign Relations. His increasing power and prestige won for him the presidency, which he occupied from 1884 to 1888. His administration was marked by great advances in public education and by notable improvements in the judicial system.

Later, Dr. Cardenas discharged with tact and ability a delicate diplomatic mission to Great Britain. He afterwards went to Puntarenas, Costa Rica, where he practiced his profession for 14 years, and then again returned to Nicaragua. Advanced age and feeble health prevented him from again accepting leadership and high office, although the insistence was great. In 1911, however, he consented to serve as Deputy in the Constitutional Assembly and took a prominent part in formulating the Fundamental Code of the Republic.

The passing away at London of Sr. DON VICENTE J. DOMINGUEZ, envoy extraordinary and minister plenipotentiary of the Argentine Republic to Great Britain, on June 28, 1916, brought profound grief to his wide circle of friends and associates both in official and social life. The late minister was known in the various capitals of Europe, as well as in those of South America, through years of diplomatic service and through the service of his father and brother



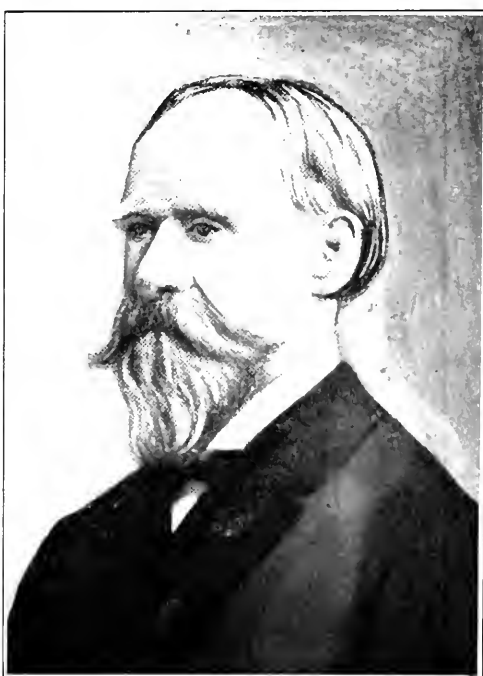
ADÁN CARDENAS.



VICENTE J. DOMÍNGUEZ.



VALENTÍN DEL CAMPO.



GUILLERMO STEWART.

before him. It is an interesting fact that Sr. Don Luis L. Dominguez, his father, and Sr. Don Florencio L., his brother, had also served as ministers from Argentina to the Court of St. James.

Sr. Dominguez was born in Buenos Aires and there received his schooling and education. He commenced his diplomatic career in 1876 as private secretary to the Argentine minister in Peru; he then served, successively, in a similar capacity to the ministers in Brazil, in the United States, and in England. In 1891 he was appointed first secretary of the legation in Madrid, and in 1895 he returned to the United States as secretary of the then legation at Washington. The following year he served in Paris, and in 1899 he was sent to London. In 1892 he represented his Government at the celebrations of the four hundredth anniversary of the discovery of America at Huelva and Seville, Spain. At the coronation of King George V, in 1911, Sr. Dominguez was commissioned as special envoy from the Argentine President. In 1911 he was appointed minister in London and was serving in that position at the time of his demise.

With the death of Sr. DON VALENTIN DEL CAMPO, Director of the Central Bureau of Statistics of Chile, there passed away an official whose activities had stamped him as one of Chile's notable public servants. Sr. del Campo died at his home in Santiago, June 28, 1916. So devoted and attached was he to his duties that although he was seriously ill for a long time he insisted on attending to official matters almost to the very end. His zeal and integrity, his wide grasp of public questions, and his administrative abilities won for him the respect of his fellow countrymen.

Sr. del Campo served as Deputy in the National Congress, and during the administration of President Jorge Montt was sent on an important diplomatic mission to the United States. Returning to Chile he occupied, successively, the position of intendente of the Province of O'Higgins, Cautin, and Concepcion. During the presidency of Sr. Don Jerman Riesco, 1901-1906, he was appointed intendente of the Province of Talca. He relinquished this post to become Chief of the Bureau of Agricultural Statistics, and, in December, 1911, assumed the position of Director of the entire Bureau of General Statistics. Sr. del Campo brought to that office a splendid training and broad experience. He succeeded in making the department one of the most important sources of information of the progress of that country.

Dr. GUILLERMO STEWART died at Asuncion, Paraguay, on June 29, 1916. With his death there passed away an historic character, one of the best known men of that country. An Englishman by birth, Dr. Stewart came to Paraguay in 1856 and for nearly six decades identified himself with the affairs of that land. Nearly every English-speaking person who has visited Paraguay during the last

half century has enjoyed meeting this interesting figure and has learned much concerning the country from his valuable fund of information, accumulated through long years of residence.

The doctor's first associations with that country occurred during the early political days of Paraguay under Lopez. Not only was he one of the very few to enjoy the intimate friendship of the dictator, but is even said to have exerted a beneficent influence over him.

At the invitation of the Paraguayan Government, Dr. Stewart went there to organize the military medical corps in 1857 and also to establish a medical school, which commenced with 50 pupils. In 1864 he was promoted to the rank of surgeon general of the army and three years later was made inspector general of the national public health service. The doctor was the first to introduce into Paraguay the Lister antiseptic methods and assisted in the organization of the first congress of medicine and public hygiene. Among his other activities were the creation of a civil register, the introduction of compulsory vaccination, and the organization of a hospital, which later was adopted as one of the public charitable institutions. Dr. Stewart was also director of the national department of hygiene at Asuncion and visiting professor in the hospitals. He enjoyed the acquaintance of bankers and capitalists and was influential in encouraging the organization of the Central Railway Co., which was later absorbed by the Farquhar interests.

PAN AMERICA IN THE MAGAZINES

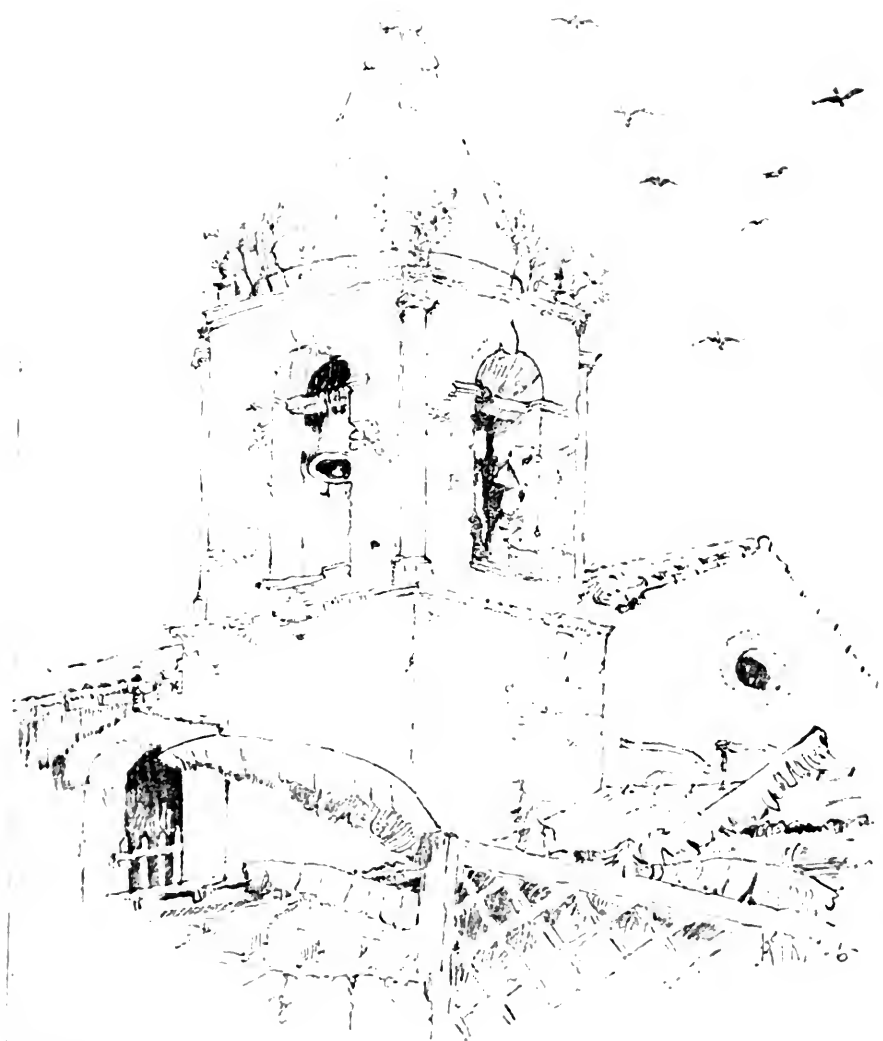
Old Churches of Panama, by C. P. Kimball, in the June number of *The Architectural Record*, is a brief description of the most notable of the old Spanish ecclesiastical structures to be found in the Republic of Panama. The accompanying drawings, also by Mr. Kimball, are of unusual merit and enable one to visualize the subjects dealt with. Just as many of the beauties of prosaic life escape the attention of the average person until pointed out by the poet, so do the artistic features and architectural beauties of many ancient structures evade the uneducated eye until presented to it by the artist's sketch. Mr. Kimball's drawings serve as a vivid illustration of the truth of this statement, for they bring out the grand lines of the old Spanish architecture of the sixteenth and seventeenth centuries in such a striking manner that even the most unappreciative layman must needs be impressed. Mr. Kimball writes in part as follows:

The destruction of old Panama by Morgan, the buccancer, in 1671, was so complete that the Spanish Crown ordered the new city to be built 5 miles up the coast, and in



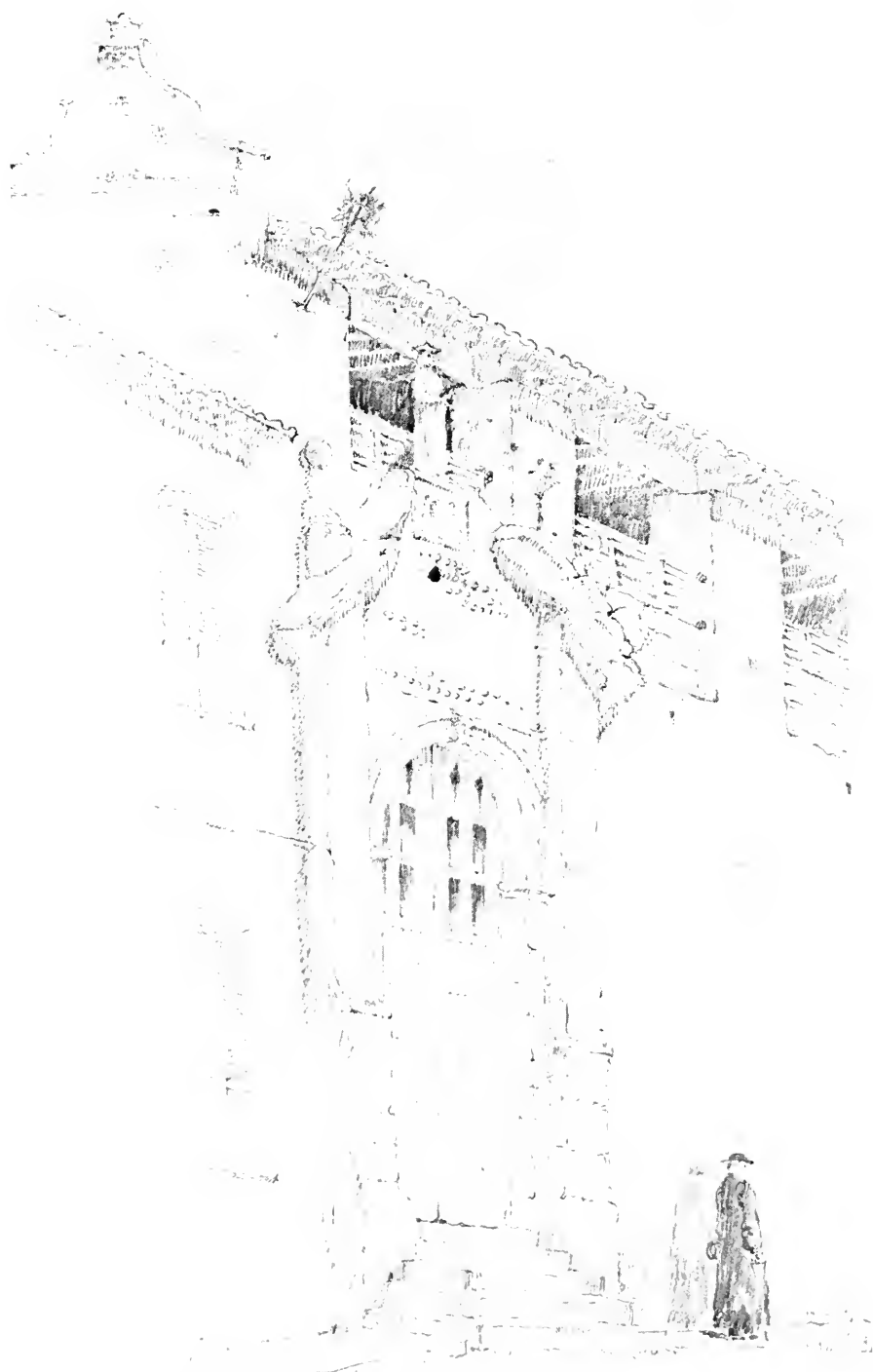
Courtesy of The Architectural Record.

TOWER OF THE CATHEDRAL, PANAMA CITY.



Courtesy of The Architectural Record.

THE CHURCH OF SAN FELIPE, PANAMA CITY.



Courtesy of The Architectural Record.

ENTRANCE TO THE CHURCH OF SAN FELIPE, PANAMA CITY.



Courtesy of The Architectural Record.

CHURCH OF SAN FRANCISCO, PANAMA CITY.

1672 the work of rebuilding was commenced. Of the old city very little remains except the tower and ruined walls of the cathedral.

The site chosen was a promontory, much healthier than the old location, and could be more easily defended. No ships could approach close to the city because of shoal water.

On the water side a sea wall was built, with turrets at intervals, and this wall was continued across the narrow neck of land; beyond it was a deep moat. Access to the city was by drawbridge and gate.

Portions of this land wall and moat can still be seen, although the city long ago outgrew the limit set by this boundary; we now find houses upon its top with walls rising sheer from its face. Through an archway one suddenly comes upon such a view as this—a courtyard surrounded by buildings. Before us rises the old city wall with houses built on it, and at a lower level we find a terrace, with houses and plants set off with an iron railing and urn-topped posts.

As wood had proved such a factor in the destruction of the older city by fire, it was ordered that all buildings in the new city should be of stone or brick. Thus we find the cathedral and other city churches with massive walls of brick and stone, the exterior surface being plastered with cement. The roofs were covered with tiles which through the centuries have accumulated moss and plant growth. In recent years many of the tile roofs have been replaced by coverings of corrugated iron.

The cathedral was of course the principal building of the city; and as such it occupied the post of honor, facing the central plaza with its royal palms and other tropical trees and its wealth of flowers and foliage.

Of the typical Spanish architecture of the time, it stands a monument to the faithful work of the old Spanish artists and artisans. Educated in the mother country, these masters in art have left their imprint on the old monuments to Catholicism throughout the former Spanish South American colonies from Mexico and the Isthmus, on the north, to the extreme southern portion of the American Continent.

The façade of the cathedral, between the two flanking towers, was faced with stone of a bluish gray color, the rest of the walls being of stone and brick, with plastered surfaces. The various niches contain carved figures of wood.

The two belfry towers have spires whose surface slopes are studded with clamshells, set into the cement in geometrical pattern, which glisten brightly in the bright tropical sunshine.

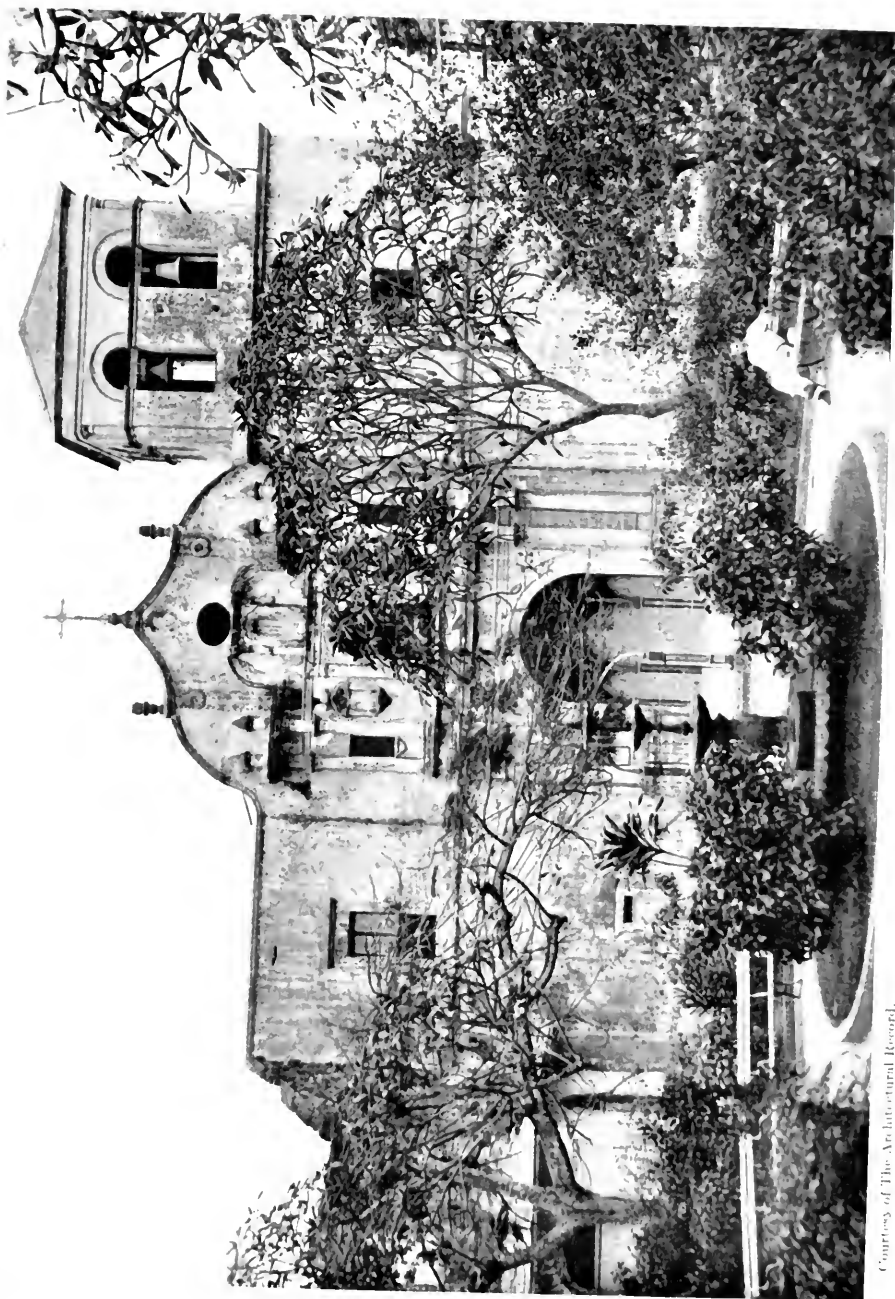
Old San Felipe bears the date of 1689, and is said to be the oldest church in the city. The entrance façade, although somewhat spoiled by recent restoration, is very interesting. The carved figure over the main entrance is of wood. The walled-in garden courtyard on a side street, which is the only place from which the church tower can be seen, is typically Spanish with its banana trees, palms and flowers, and arched cloister beyond.

Near by, fronting the plaza of the same name, is San Francisco Church, with its ornate façade, and severely plain belfry tower on the corner. The rear of this church is built on the sea wall. Extending to the left is a long two-storied building with arched balcony looking out on a courtyard on the city side and windows opening seaward at the rear.

La Mercedes Church, like the cathedral, is faced with stone between the two flanking towers. These towers terminate above the belfry, however, in domes instead of spires. An interesting domed altar chapel stands close to the street at the corner of the main building, and balancing the front in the opposite corner is a domed vault.

San Jose is a small single-towered church and stands near Herrera Plaza.

The beautifully proportioned entrance to the Jesuit College buildings bore the date 1739 and was executed in stone. At the time this sketch was made (1905) the buildings were roofless and in ruins. The entrance and most of the walls have since been demolished.



Courtesy of The Architectural Record.

REAR VIEW OF THE CHURCH OF SAN FRANCISCO, PANAMA CITY



Courtesy of The Architectural Record.

CHURCH OF LA MERCEDES, PANAMA CITY.



Courtesy of The Architectural Record.

TOWER OF CHURCH OF SAN JOSÉ, PANAMA CITY.

Old San Domingo Church, built entirely of brick, has long been a ruin, only the walls and arches remaining. A few years ago when the site was coveted for an apartment building, the old flat arch was saved for sentimental reasons, and, with the front wall, still stands.

This old arch, with a span of 37 feet and a rise of 7 feet 9 inches, built of brick and cement, stands as a tribute to the skill of the old Spanish artisans of the seventeenth century. The story of its construction is told in the *Isthmus* as follows: It had been twice built only to collapse; the third time the forms were removed the architect took a position directly beneath it, calling on God to crown his work with success, and the arch stood.

The various village churches illustrated herewith are, many of them, much older than those of Panama City, even dating back to the earliest Spanish settlement.

The little church on Taboga Island, in the village of the same name, is one of these, and fits naturally into its location at the intersection of the narrow, crooked, cobblestone-paved streets.

A Lost City of the Andes, by Harry A. Franck, in the July number of the *Century Magazine*, is an interesting account of that peripatetic writer's journey from Cuzco to the ruins of the ancient Inca city, Machu Picchu. It will be remembered that these marvelous ruins were first visited by Prof. Hiram Bingham, of Yale University, in 1911. At that time but a very small fraction of the ruins was discernible. In 1912, however, under the auspices of Yale University and the National Geographic Society, of Washington, D. C., a second Peruvian expedition under the leadership of Prof. Bingham succeeded in excavating a large area, and first revealed the magnitude of what the professor contends was the first capital of the Inca Empire, known in the earliest chronicles as Tamputocco.

Mr. Franck's account of his journey is in his usual light and humorous vein, interspersed with occasional fine graphic descriptions of the mountain scenery encountered. When the mysterious city of the ancient Incas is reached, however, he drops his whimsical style and writes in a more serious mood. The following excerpts from the article will serve to show his appreciation of this wonderful work of a vanished race, as well as of the beauty of its environment:

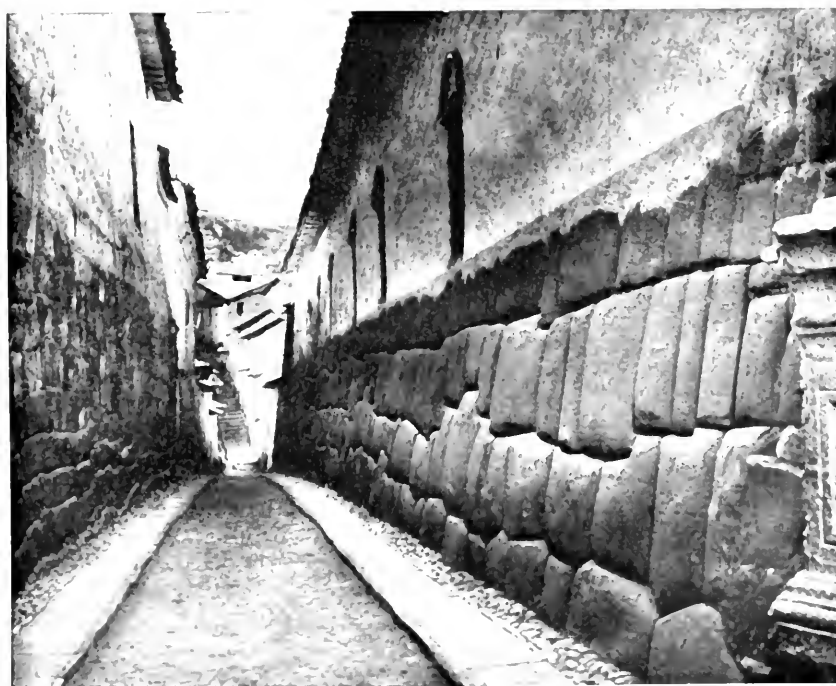
My first impression was tinged with disappointment. Aside from the general experience of finding a long-heralded scene striking in inverse ratio to the length of time the imagination has fed upon it, my mental picture of a city seemed to call for skyscrapers crowded over a vast area that could be bound closely together only by a rapid-transit system. Measured by these subconscious standards, the town the Incas or their predecessors had left here in the beautiful fastnesses of the Urubamba was small. At least it had been our good fortune to catch the first sight of it from a splendid point of vantage. Well below us and across a considerable gully, the abandoned city lay spread out in all its white granite brilliancy under the gorgeous Andine sunshine, and if all the town could not be included in a view from this point or any other, that view included all the finer buildings and left out chiefly the extensive *anden*s and the third-class houses of those who lived on and worked them. Though roofless, it was a complete city in so fine a state of preservation that the beholder felt like one of the old Spanish conquistadores in those enviable years when there were still new worlds to discover. On a gigantic scale its site was that of an ancient feudal castle.



Courtesy of the Bay View Museum

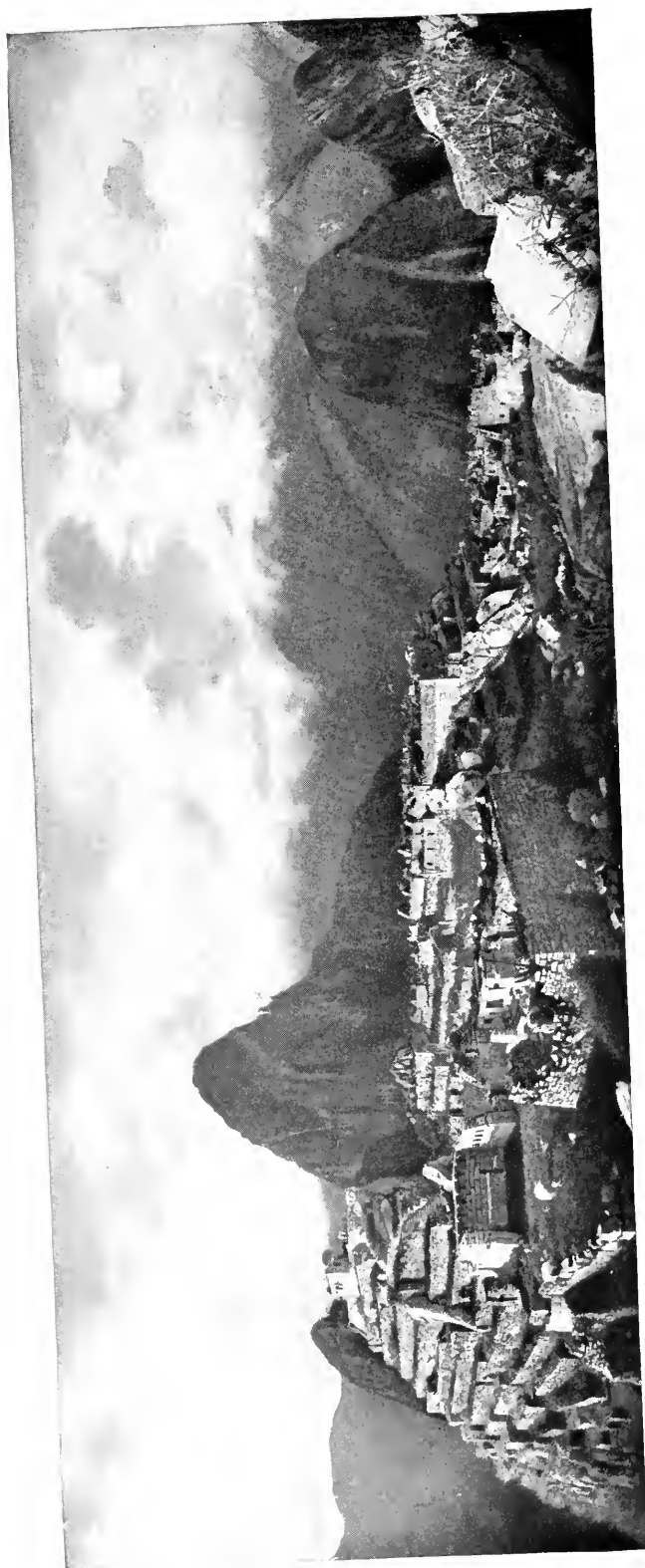
PALACE RUINS OF THE INCAS ON LAKE TITICACA.

The eight inhabited islands of this lake, particularly Tifener Gölü, or sacred isle, as well as the adjacent main land, abound in pre-historic antiquities, such as fortresses, temples, and palace foundations.



U.S. DEPARTMENT OF COMMERCE, Bureau of Economic Warfare

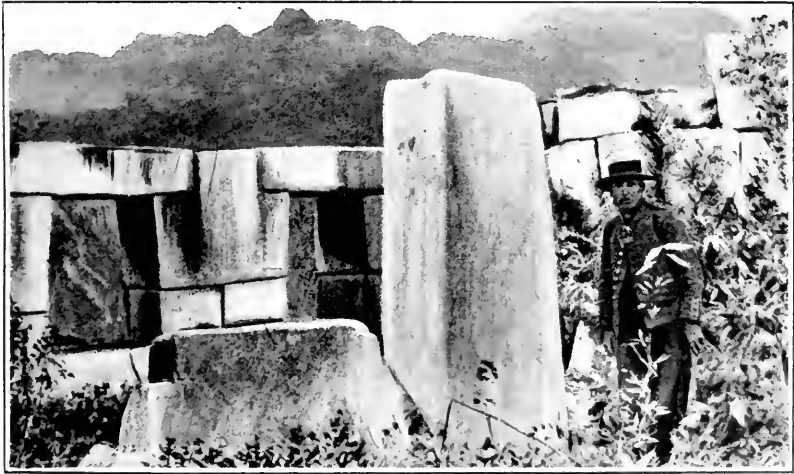
THE CHERISHED IN A WALL OF GLASS: FORD



Courtesy of The National Geographic Society.

THE RUINS OF MACHU PICCHU, ANCIENT CAPITAL OF THE INCAS.

Though roofless, it was a complete city in so fine a state of preservation that the beholder felt like one of the old Spanish conquistadores in those enviable years when there were still new worlds to discover. . . On a gigantic scale its site was that of an ancient feudal castle. A mountain ridge defended by nature in one of her most solitary moods and including within its confines the steeply-pointed peak of Huanina Picchu, fell away on every side by tremendous precipices into the fearful void of the Urubamba, a sheer unbroken 2,000 feet to the threadlike river that makes a three-fourths circle around it; while beyond, pregnant with the mystery of impassable jungle and of a bygone race, lay a wonderful wilderness of Andine ranges, shaggy with dense forests, pitched and tumbled and fading away in the blue-black of unfathomable distance."—(From "A Lost City of the Andes," by Harry A. Franck, in the July Century.)



Courtesy of The Geographical Journal.

ANCIENT INCA WALLS AT MACHU PICCHU.

Upper: "As walls they are unsurpassed. Stones fitted with so tireless a nicety that without mortar they stand to-day, except where the roots of trees have crowded in between them, illustrations of that time-worn phrase in all Peruvian chronicles from Garcilaso to Squier, 'so that a knife blade can not be inserted between them.' Marble-white walls there were so splendidly symmetrical that time after time the enraptured eye stole along them as over a beloved form." Lower: "Here, too, is the temple of the three windows, so unusual a feature of prehistoric Peruvian architecture that the chief of the excavators connects it with the ancient tradition of the three brothers who came out of as many windows to found the empire of the Incas."—(From "A Lost City of the Andes," in the July Century.)

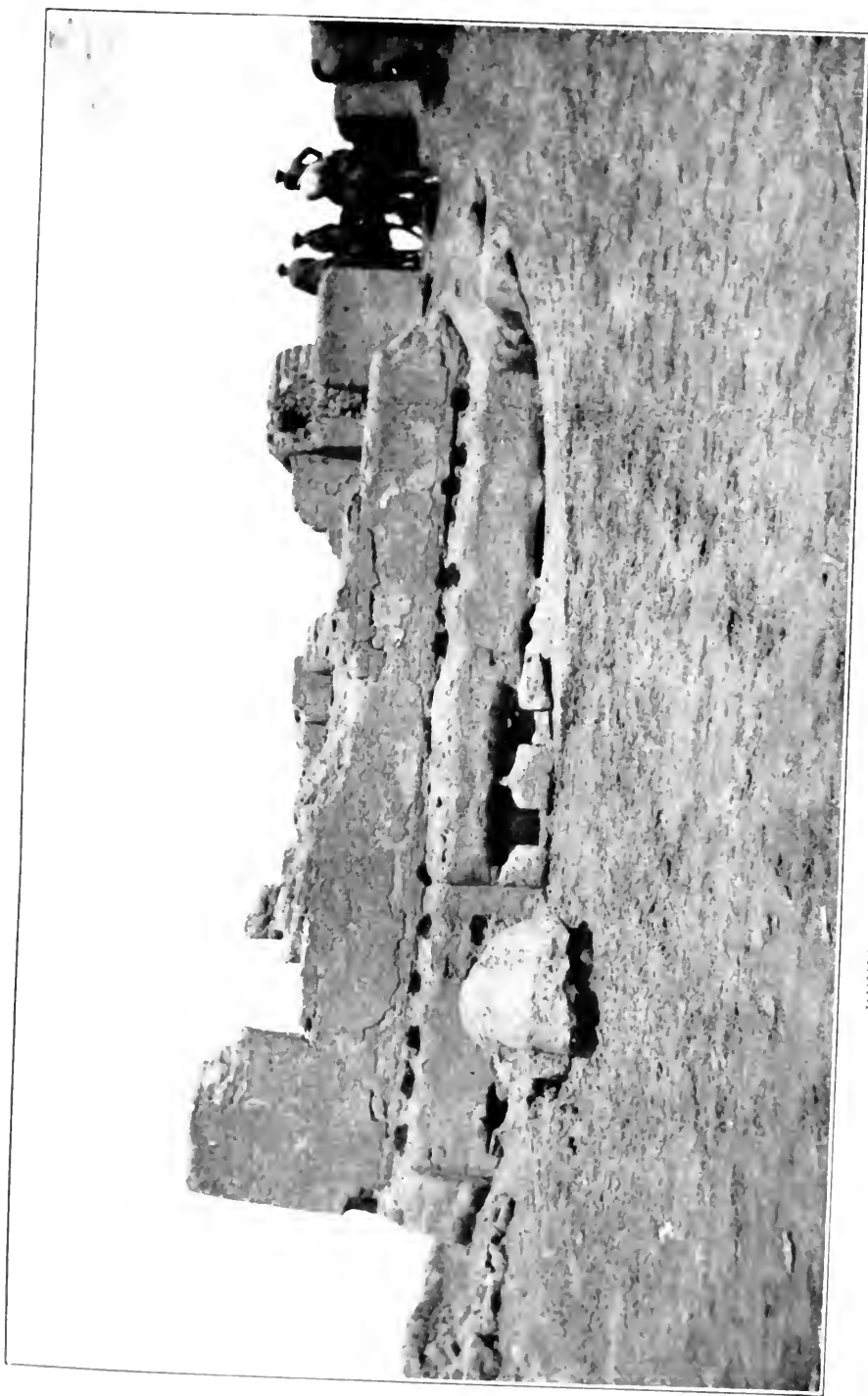
A mountain ridge, defended by nature in one of her most solitary moods and including within its confines the steeple-pointed peak of Huaina Picchu, fell away on every side by tremendous precipices into the fearful void of the Urubamba, a sheer unbroken 2,000 feet, to the threadlike river that makes a three-fourths circle around it; while beyond, pregnant with the mystery of impassable jungle and of a bygone race, lay a wonderful wilderness of Andine ranges, shaggy with dense forests, pitched and tumbled and fading away in the blue black of unfathomable distance.

Machu Picchu was indeed a city of refuge. There is no need of Incaic lore and the furrowed brow of the archaeologist to be certain of that. Only men scared beyond the functioning of goose flesh could have scurried away into this most inaccessible nook of the Andes and scrambled up these appalling cliffs to escape their pursuers, only men to whom labor was as nothing compared with the fear of bodily violence would have toiled a century fitting together these gigantic rocks and boulders rather than sally forth to take their chances against the slings or poisoned arrows of their enemies. * * *

The fancied disappointment of the first view had worn completely away. As the mind adapted itself to pre-Columbian standards the city assumed its true aspect, that of a delicate work of art of intensive construction. Here in this eagle's nest of the Andes, cut off from the rest of the world, had lived an artistic and adaptable people with a capacity for concentration of effort and a high grade of efficiency now lost among their descendants. Virtually all the stonework of the better part of the city was of the very best Inca style in plan, cut, and fit. Nothing I had seen in all the length of the Andes, from Cañar in the far north, could surpass these walls, rivaled only by those of Cuzco, and even those of the City of the Sun can not match the charming uniform color of this white-gray granite, approaching in beauty to pure marble.

Details are best left to photography. Like the ruins of Cuzco, these are confined exclusively to walls. The Inca civilization seems to have been of that utilitarian turn of mind that gave its attention chiefly to the practical, with the result that there is not to-day a statue to be seen in the length and breadth of Peruvian ruins, and the grass-thatched roofs beyond which these unrivaled stonecutters did not advance may have fallen in centuries before Pizarro first herded his pigs among the foothills of Estremadura. But as walls they are unsurpassed. Stones fitted with so tireless a nicety that without mortar they stand to-day, except where the roots of trees have crowded in between them, illustrations of that timeworn phrase in all Peruvian chronicles from Garcilaso to Squier, "so that a knife blade can not be inserted between them." Marble-white walls there were so splendidly symmetrical that time after time the enraptured eye stole along them as over a beloved form. Like all Inca architecture, everything—walls, doors, niches—decreased in size toward the top, here at about the same angle as the slope of the precipitous cliffs, carrying the mind back to Karnak and the ruins of the Nile. Every possible ground boulder or rock ledge and mountain platform was made full use of, and the eye at times hardly detects where the building of nature leaves off and the planning of man begins.

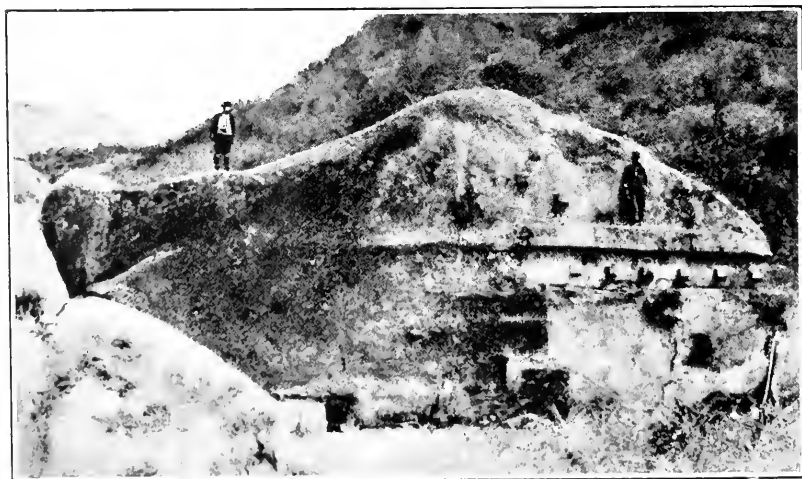
* * * Machu Picchu has escaped the common fate of the other pre-Columbian ruins of the Andes and remains a city intact, like Pompeii, as genuine as when its inhabitants abandoned it. But for the missing roof, scores of buildings are as well preserved as on the day their dwellers departed. Rough stone gables stand everywhere peaked above the general level, sometimes bearing still the stump of a great tree, the roots of which had curled and twined in among the stones wherever a handful of soil was to be found to feed upon. The ruins seemed to sprout flowers and trees. The task of los Americanos had been no sinecure. They had felled an entire tropical forest and in places had dug away several feet of soil to present at last the entire city, with its alignment of streets, baths, temples, palaces, and blocks of dwellings. But much care had been necessary. Many a stump must be left just where it grew, for even to attempt its removal would frequently have brought down half the struc-



RUINS OF A PRE-INCAIC EDIFICE IN PACHACAMAC, PERU.



RUINS OF THE GREAT AUDIENCE CHAMBER, PACHACAMAC, PERU.



Courtesy of The Geographical Journal.

NUSTA ESPAÑA, THE GREAT MONOLITH FOUND NEAR ROSAS-PATA, PERU.

This great monolith, 180 feet in circumference, 25 feet high, and 27 feet wide, was among the remarkable relics of the ancient Inca civilization first called to the attention of the scientific world by the work of the Peruvian Expedition under Prof. Hiram Bingham, of Yale University.

ture it grew in. The finest ruins of the Western Hemisphere, the mystery of this city of the unpeopled wilderness trebles its fascination. How could such a place escape all mention by the old chroniclers who so gloried in endless descriptions of all that the foraging Spaniards discovered in the New World? How long centuries have passed during which Ollantay-tambo has been generally accepted as the last monument of importance in the valley of the Urubamba?

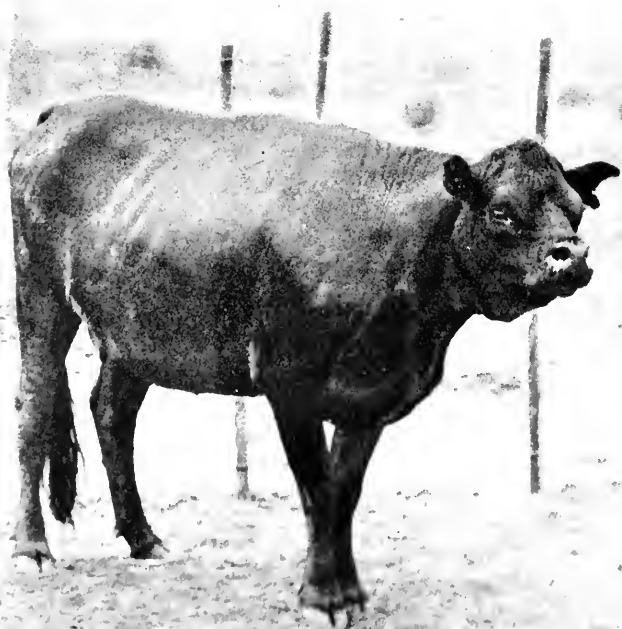
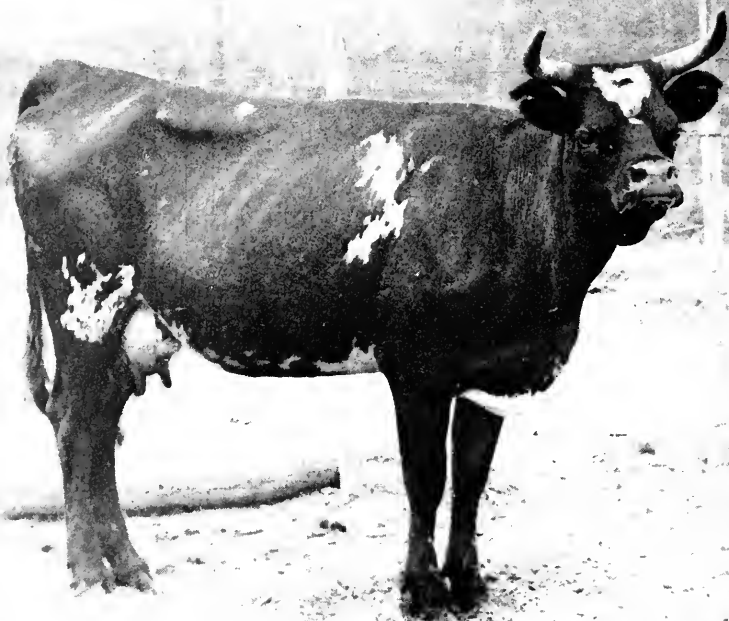
The town centers about the main plaza, with its splendid wrought-stone temple backed by the "priests' dwelling" and the sacred hill piled up behind it. Here, too, is the Temple of the Three Windows, so unusual a feature of prehistoric Peruvian architecture that the chief of the excavators connects it with the ancient tradition of the three brothers who came out of as many windows to found the empire of the Incas: "Al principio del mundo," as Garcilaso has it. Certainly, if this is the original Tampusocco from which came the founders of the empire, they improved little in their building in the long years between Machu Picchu and the construction of Cuzco. Its sponsor considers the city a thousand years old. Yet though the virile simplicity of its construction is untouched with the beginning of that ornateness that marks decadence in all civilizations, there is something of a delicacy and artistic splendor, even amid a curious mixture of the crude and primitive, that does not seem to fit an older and less-developed people than the builders of Cuzco.

"Bulldog" Cattle, in a recent number of the *Journal of Heredity* (Washington, D. C.), is an article which deals with a breed of cattle now apparently almost extinct. It would seem that the breed was of South American origin, and while no longer of great value or interest to stock breeders, as a curiosity in bovine races it has claimed the attention of geneticists generally and of the American Genetic Association particularly. So little is generally known of the breed that the article is reproduced in full, together with photographs of two specimens, by permission of the *Journal of Heredity*.

The peculiar jaw characteristic of a bulldog is a mutation which is not confined to the dog alone, but appears from time to time in other animals. It has been reported in foxes, and Charles Darwin found a whole race of cattle in South America which showed this peculiarity. Writing of his trip through the Province (now the Department) of la Colonia in Uruguay, he said:

"On two occasions I met with in this Province some oxen of a very curious breed called *ñata* or *niata*. They appear externally to hold nearly the same relation to other cattle which bull or pug dogs do to other dogs. Their forehead is very short and broad, with the nasal end turned up, and the upper lip much drawn back; their lower jaws project beyond the upper, and have a corresponding upward curve; hence their teeth are always exposed. Their nostrils are seated very high up and are very open; their eyes project outward. When walking they carry their heads low, on a short neck; and their hinder legs are rather longer when compared with the front legs than is usual. Their bare teeth, their short heads, and their upturned nostrils give them the most ludicrous self-confident air of defiance imaginable.

"Since my return, I have procured a skeleton head through the kindness of my friend Capt. Sullivan, R. N., which is now deposited in the College of Surgeons. Don P. Muniz, of Luxan, has kindly collected for me all the information he can respecting this breed. From his account it seems that about 80 or 90 years ago they were rare and kept as curiosities at Buenos Aires. The breed is universally believed to have originated among the Indians southward of the Plata, and that it was with them the commonest kind. Even to this day those reared in the Provinces near the Plata show their less civilized origin in being fiercer than common cattle, and in the cow easily deserting her first calf if visited too often or molested. It is a



Courtesy of The Journal of Heredity.

ÑATA, OR BULLDOG CATTLE.

This now almost extinct race of cattle was first brought to the attention of science by Charles Darwin, whose account is reproduced in part in the accompanying text. Compared with the description given by Darwin, the specimens pictured above are not full-blooded ñatas, but perhaps a first cross between the male ñata and the common cow. The breed is supposed to have originated among the Indians in the Rio Plata region of Uruguay, and the only living specimens are to be found in that country.

singular fact that an almost similar structure to the abnormal one of the niata breed characterizes, as I am informed by Dr. Falconer, that great extinct ruminant of India, the Sivatherium. The breed is very true; and a niata bull and cow invariably produce niata calves. A niata bull with a common cow, or the reverse cross, produces offspring having an intermediate character, but with the niata characters strongly displayed; according to Sr. Muniz, there is the clearest evidence, contrary to the common belief of agriculturalists in analogous cases, that the niata cow when crossed with a common bull transmits her peculiarities more strongly than the niata bull crossed with a common cow.

"When the pasture is tolerably long, the niata cattle feed with the tongue and palate as well as common cattle, but during the great droughts, when so many animals perish, the niata breed is under a great disadvantage, and would be exterminated if not attended to; for the common cattle, like horses, are able just to keep alive by browsing with their lips on twigs of trees and reeds; this the niatas can not so well do, as their lips do not join, and hence they are found to perish before common cattle. This strikes me as a good illustration of how little we are able to judge from the ordinary habits of life, on what circumstances, occurring only at long intervals, the rarity or extinction of a species may be determined."

Knowledge of the niata breed has been little increased since Darwin's time, and, so far as the writer is aware, no photographs of it have been published. The Journal of Heredity therefore undertook, nearly three years ago, to find what had become of this curious bovine race, and to secure illustrations of it. A fruitless correspondence was conducted with numerous South Americans, but finally a member of this association, B. Lorenzo Hill, of Montevideo, interested himself in the case, and for the past year has prosecuted a diligent search for information about the breed. The principal newspapers of Uruguay cooperated by printing the American Genetic Association's appeal, at the instance of Mr. Hill, and another member of the association, Don Hugo A. Surraco Cantera, inspector nacional de ganaderia y agricultura, exerted himself actively in the quest. He was finally able to secure the accompanying photographs from a rancher in the district of Chubut. They were at once published in several of the most widely circulated newspapers of Montevideo, accompanied by another appeal from the Uruguayan department of agriculture, in which ranchers were asked to assist the American Genetic Association in getting more detailed information. * * *

A comparison of the accompanying photographs with Darwin's description makes it seem probable that the animals pictured are not full-blood niatas, but a first cross between the niata and a common cow, for the peculiarities of the head are certainly much less than Darwin's description would lead one to expect.

The difficulty which has been encountered in finding any trace of these cattle at the present time indicates that the race has become practically extinct. Judging from the appearance of the cows, it could never have been very valuable, and the introduction of the best European breeds, particularly the Hereford, into Uruguay in recent years has raised the standard of live stock so much that, presumably, it is no longer profitable to keep niata cattle. Add to this the possibility that the physical peculiarities of the breed have contributed to their disappearance, as Darwin describes, and it will readily be understood that their numbers might diminish greatly in the course of half a century.

Live-stock breeding has now reached such a high point in Uruguay that it is not probable that anyone hereafter will care to breed such cattle as these for commercial purposes. In order to prevent the entire disappearance of an interesting variation, it would be worth while for some zoological garden to secure specimens of the niata. Full-blood specimens, if they can be secured, would be of much value to geneticists, and ought to be fully as interesting to the public as the common stock in trade which every zoological garden in the world keeps on hand and which every frequenter of such institutions has seen at frequent intervals throughout his life.

Penetrating the South American Jungle, by Lieut. Col. P. H. Fawcett, R. A., F. R. G. S., in the July number of *Travel*, is a remarkable story. Were it not for the fact that the author is an English officer of apparently high standing who has been awarded the explorer's gold medal by the Royal Geographic Society of London, persons who are fairly well acquainted with conditions in many parts of the South American interior would be inclined to doubt the accuracy of some of his statements. Among other remarkable assertions the following has a tendency to strain one's confidence in the great explorer's ability to properly distinguish between fact and fiction: "We had passed through 8,000 to 10,000 savages, forming four tribes, hostile to one another, within a small corner of a huge unexplored area. Around us were more tribes and yet more, *all cannibals*, all unknown to civilization, and amounting, I suppose, altogether to some *hundred thousand*." (The italics are ours.)

Other explorers of regions at least similar to those referred to by Col. Fawcett insist that the Indian population is extremely sparse and composed largely of more or less isolated small tribes. Koch-Grünberg and others who have sojourned for several years at a time in various wilderness sections of the Brazilian interior, in the Paraguayan Chaco, in the remote hinterland of Bolivia, regions where white men had never before penetrated, not only failed to come in contact with any cannibal tribes, but failed to learn of any such by credible hearsay evidence. It is to be regretted that Col. Fawcett's description of the habitat of these cannibal hordes is so vague and indefinite that a comparison of his statements with those of other explorers who may have visited the same region is impossible. At any rate, in view of the fact that the remarkable narrative comes from such a distinguished Fellow of the Royal Geographic Society of London, an R. A., and an honored officer of the British Army, it may not be amiss to reproduce some of the almost incredible features of the story in the following excerpts:

Now figure to yourself a party of four Englishmen, not very long ago, disembarking with a quantity of compressed food, ammunition, and equipment of the very lightest order, from a dugout canoe at the farthest navigable point of a small river.

For three weeks we are engaged in cutting our way through apparently interminable mazes of creeper and thorn, wading through swamps, hopes gladdened occasionally by slight rises of land where some long-abandoned clearing of the savages proved itself to have only immensely augmented the density. The greater part of the forest is clearly under water in the wet season. There is no sign of human life, and game is therefore fairly abundant for so small a party. At the end of three weeks we emerge from particularly dense, low scrub upon grasslands where water is scarce. We realize a danger from thirst. We send ahead two of the party unburdened with packs to locate water ahead before abandoning our last supply. In front low hills show up, covered anew by forest, into which we plunge. It is a fine forest of heavy trees and the going is now easier. We reach water again, beautiful streams, crystal and sparkling.

We cross deep gullies and scramble up precipitous slopes. Game has given out and our stores are exhausted. Experience has taught us that scarcity of game denotes the

proximity of savages. Moreover, the country is beautiful and the climate fresh. Suddenly we meet a well-worn trail, on which lie recently broken nutshells. Robinson Crusoe appreciated to a minor degree, perhaps, what we felt at that moment, for where he espied a single footprint we were deliberately entering a populated country. Choosing the direction more appropriate to our original line, we follow the trail. We pass a freshly felled plantation, clearly the patient results of stone ax work. Silence is imposed and we walk warily. A quarter of a mile farther on the ground is littered with shells and maize leaves. We are on the edge of a big clearing. As we emerge from low undergrowth bordering in the forest there is a sound of voices.

In front of us is a huge communal dwelling, 100 feet in diameter by 70 or 80 feet in height, surmounted by a tall wooden spire. Out of a narrow entrance door toddles a naked cherub of a savage, a tiny mite just able to walk, a small stone ax in its hand, intent on cracking a nut. I whistle. The cherub jerks around and emits a wild screech. Brown hands shoot out of the obscurity of the entrance door and seize it. There is an instant hubbub inside. We advance into the open, dump our packs, and sit upon them in what might be termed extended order.

There is nothing for it now but boldness. We can see nothing inside the building, for it is dark, to discourage insects as we later discovered, but the noises suggest arming. By the light of afterknowledge we know that the women were gathering hastily all the bows and arrows, for we had by a great stroke of luck timed our arrival when all the men were away in the plantation. We did not know it, but the house contained only women and children. I approach the house and slip inside under cover of the dark wall. When my eyes have accustomed themselves to the darkness I see two frightened women, an old one and a young one, plucky enough to have weighed their palpable fears against the probability of ruining a brew of maize beer. I approach them and make signs for food. At the extreme of her reach the old woman gives me a calabash of boiled maize. We consume it greedily and make signs for more. As we eat it the warriors return. We can see their shadows gliding around the building outside. We are, in fact, surrounded. A few slip in through an opposite door and distribute themselves around the inside, arrows to bows. I walk up to one or two and give them some trifle, a colored handkerchief or a few beads. An old man who has been talking to the women approaches me with deliberation. He is armed only with a sword of black palm wood. He squats in front of me, strokes my hands, and orders the women to bring a calabash of nuts. We all eat them together. We are friends, as I discover later, only by virtue of having eaten their food.

We were conducted from village to village of these people, received by gatherings sometimes of 200 or more fine, supple, copper men, every one with an arrow ready until the proper forms of presentation had been complied with. We were present at two cannibal feasts—their own dead, as it happened—followed by strange hypnotic ceremonies and most haunting chants to rid the dwelling of the spook of the departed. We saw the women, many of them unquestionably pretty, living on terms of affectionate equality with the men, a strange thing among savages. We found a people who knew the difference between stars and planets. We were fed royally and were the objects of unbounded curiosity. I learned to some extent their language, which, in company with their tribal name, has never been heard of. I have again and again listened to them in the early hours of the morning singing melodiously to the rising sun. I have brought back to this country their photographs, their stone axes, bows, arrows, and adornments.

But as this tribe was not the objective of the expedition, we braved warnings, and even some mild opposition, and left them. We penetrated other tribes less advanced, avoiding annihilation by pure luck, attacked in the open and persecuted by night, unable to establish any sort of friendly relation. We robbed plantations in order to live; a most hideous offense in savage communities. We were forced to kill in self-defense. We raised, in truth, a hornet's nest among wholly brutal tribes more



Courtesy of Travel.

GUARAYO INDIANS OF BOLIVIA.

According to Col. Fawcett, these Indians, who live in the country adjacent to the Heath River, are usually hostile to white men. It seems, however, that the colonel and his party made friends of them and enjoyed their hospitality.

animal than human. We could get little or nothing to eat. At last the nervous strain, coupled with the heavy packs and scarcity of food, weakened the enthusiasm of my party and brought on sickness. I was forced to return, for one man gave way under the mental strain.

There is little so bitter to the explorer as a premature return and uncompleted work. We were on the edge of a country of fine climate and extraordinary people so utterly debased that one hesitates to record it. We had passed through 8,000 to 10,000 savages, forming four tribes hostile to one another, within a small corner of a huge unexplored area. Around us were more tribes and yet more, all cannibal, all unknown to civilization, and amounting, I suppose, altogether, to some hundred thousand. In front of us were tribes of an almost incredible character; a short, broad people covered with black hair over the entire body and face. From the friendly tribe, to which we returned by a circuitous route to avoid trouble, I learned some details of these people. They live in communities of many thousands without homes or shelters; they climb trees like monkeys; they attack by night, and they use only clubs for weapons. They live almost entirely on human flesh from their own and surrounding tribes, who greatly fear them. Their methods of cooking these banquets is horrible. Within their territory is found the stone necessary for the manufacture of stone axes, and although 10 days away and carrying hideous risks, it has to be obtained from time to time. Beyond these apelike people are, according to my informants, "houses of stone."

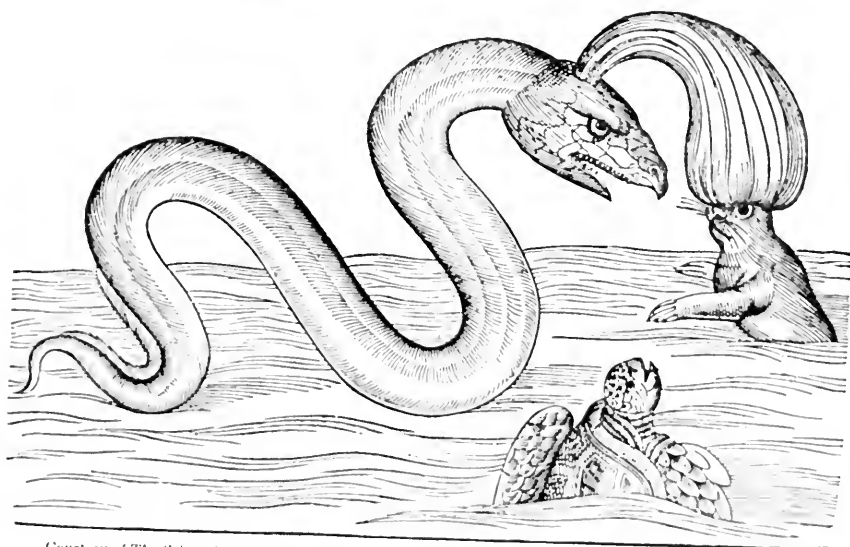
I am telling you facts and not romancing. What are these "houses of stone"? Can it be the lost "city"? There is more I could tell you, but for the duration of the war silence is advisable. For years I have dropped hints of strange possibilities in the remoter fastnesses of the Amazon forests for explorers who have the knowledge and care to take the risks. I have never exaggerated experiences, and that no one has yet succeeded in following the footsteps of my party out of civilization is proof that it is no child's play.

NOTE.—Notwithstanding Col. Fawcett's assertion, much of the matter contained in the last four paragraphs strikes us as being largely pure and unadulterated fiction.—Acting Ed. of Bulletin.

The Reversus: A Fishing Tale of Christopher Columbus, is the subject of an interesting article by Dr. C. R. Eastman, of the American Museum of Natural History, in the July number of *The Scientific Monthly* (published by The Science Press, New York). Evidently, fish stories are not at all a recent invention of the disciples of Izaak Walton, for this one was told some 420 years ago, and presumably by no less a personage than the discoverer of America. Unlike many of its modern prototypes, however, it seems to have more foundation in fact than the average person would be inclined to believe, if we are to take Dr. Eastman's view. He has investigated the tale from an historic as well as scientific point of view, and the following excerpts from the article will give the reader the gist of the story and the investigator's conclusion:

Truly a remarkable fish story that which should require an analysis of the earliest sources of American history in order to test its credibility. Nevertheless there lies buried among the contemporary narratives that have come down to us of the second voyage of Columbus, in 1494, a tale of fish and fishermen of such interest and novelty, and apparent truthfulness, as will repay attention on the part of present-day students of history and natural science.

The original narrator of the fishing incident about to be described appears to have been Columbus himself. Unfortunately, however, the log or journal kept by the



Courtesy of The Scientific Monthly.

OLD ILLUSTRATIONS OF TWO VARIETIES OF THE REVERSUS

Upper: The Diodon, or so-called "spiny variety of the Reversus," as shown in Aldrovand's "De Piscibus," published in 1638. Lower: The Remora, or eel-like variety of the Reversus, as Aldrovand pictures the creature in the same work.

great navigator during his second voyage is no longer extant; but we possess abridgments of it in what passes for the Life of Columbus, by his son Ferdinand, and also in the History of the Indies which we owe to that man of revered memory, Bartolomé de las Casas.

There has also been preserved for us a letter written by a naturalist who accompanied Columbus during his second voyage, Dr. Diego Alvarez Chanca; and much information derived from personal intercourse with the admiral and the men under his command is embodied in the writings of Peter Martyr, of Anghera, sometimes styled the "father of American history," and in the chronicles of Andrés Bernaldez, curate of Los Palacios, in Andalusia. It is of record that Columbus placed his journals and other papers in the hands of Bernaldez, whose guest he was in 1496. Thirteen chapters of the curate's book are devoted to an account of Columbus and his discoveries. These, then, are the original sources to be consulted in regard to the happenings which took place during the memorable second voyage to the West Indies.

From the writings that have just been mentioned we learn that the Spaniards came upon a party of native fishermen off the coast of Cuba who were engaged in the capture of marine turtles, the means employed by them for that purpose being wholly unlike anything ever seen or heard of in Europe. In a word, it consisted in the use of a sucking fish, known to naturalists as the Remora, which, after having been caught and tethered (so to speak) by means of a cord attached to its body, was allowed to fasten itself by its sucking disk to another fish or turtle, whereupon both were drawn in. Historians have frequently repeated the narrative, but only a single naturalist, Alexander von Humboldt, appears to have inquired into the premises at all carefully. It may therefore be instructive for us to compare two or three of the different versions that are contained in the original sources, after which we may be better able to interpret the actual facts.

The writer then gives several of these versions, including that found in Ferdinand Columbus's biography of his father; the account given in the chronicles of Andrés Bernaldez; that of Peter Martyr; and short allusions to the peculiar fish by Oviedo and others. Of these various accounts we quote only that portion of Ferdinand Columbus's story which is directly in point, the English rendering being from the second volume of Churchill's Voyages, as follows:

In one of these channels they spy'd a canoe of Indian fishermen, who very quietly, without the least concern, awaited the boat which was making toward them, and being come near, made a sign to them in it to attend till they had done fishing.

Their manner of fishing was so strange and new to our men that they were willing to comply with them. It was thus: They had ty'd some small fishes they call *Reverso* by the tail, which run themselves against other fish, and with a certain roughness they have from the head to the middle of the back they stick fast to the next fish they meet; and when the Indians perceive it drawing their line, they hand them both in together. And it was a tortoise our men saw so taken by those fishermen, that fish (the *Reverso*) clinging about the neck of it, where they generally fasten, being by that means safe from the other fish biting them; and we have seen them fasten upon vast sharks.

When the Indians in the canoe had taken their tortoise, and two other fishes they had before, they presently came very friendly to the boat, to know what our men would have, and by their directions went along aboard the ships, where the Admiral treated them very courteously.

The other versions are very similar, varying somewhat in their descriptions of the *Reverso* fish, some attributing its sticking qualities to "suckers" completely covering its mouth, etc., but agreeing as to

its fish-catching ability. Having dealt with the historical aspect of the story, Dr. Eastman continues:

So much for the original sources of the "Reversus" fishing incident; let us now consider its credibility. Humboldt, a century ago, gave full credence to the narrative, as related by Ferdinand Columbus, and conjectured that the species of sucking fish employed by the natives at Queen's Gardens was probably *Echeneis naucrates*. He also recalled that the French naturalist Commerson had noted among the inhabitants of Mozambique a similar use of the Remora for the capture of marine turtles, and cited Dampier (erroneously, however) and Capt. Rogers to the same effect. From still another source, namely, the voyage of the Swedish traveler Andrew Sparrman, we learn of African natives near the Cape of Good Hope making use of the Remora in identical manner for the capture of marine turtles. * * *

The distinguished ichthyologist, Dr. Albert Günther, in referring to the accounts of Commerson and others, expresses doubt as to their genuineness, and states that they appear to have originated rather from an experiment than from regular practice. Dr. D. S. Jordan also doubts whether the large *Echeneis naucrates*, which he has studied in Cuba, was ever practically used in the manner described. We are permitted to quote the views of this authority as communicated in a personal letter. This reads in part:

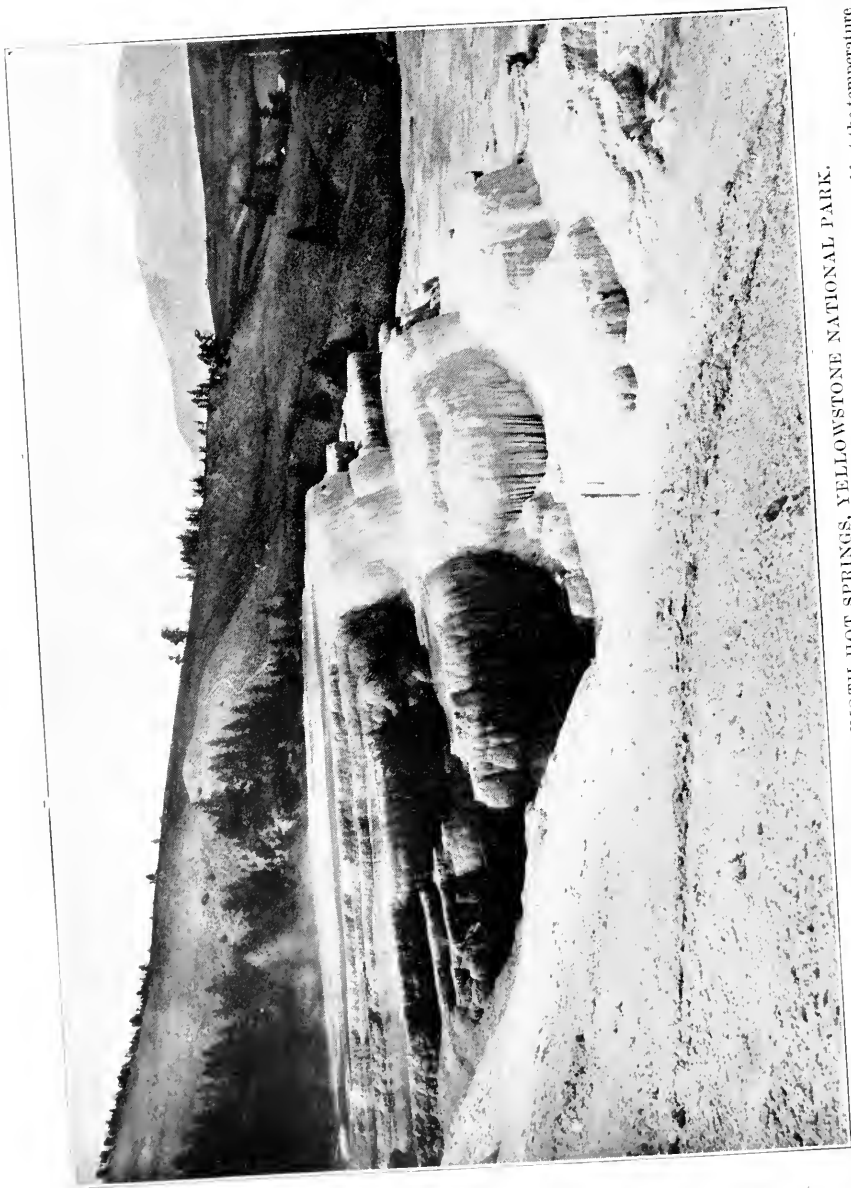
"The minute the shark to which *E. naucrates* has fastened itself is drawn out of the water, it loosens its hold and gets out of the way in a hurry. I do not think it could be trusted to fetch in a turtle, or any other large fish; and I never knew it to cling to any small fish. The smaller sucking fish, *Remora remora*, clings tight. I have drawn up big sharks in the mid-Pacific with the Remora attached, and it wouldn't let go. Dr. Gilbert tells me that in Japan he has taken them off from sharks and kept them in the aquarium. * * * But Remora, rarely exceeding 16 inches in length, could never be used in fishing and the big *Echeneis* doesn't 'sit tight.' The name 'Reversus' seems to me to come from the fact that these fish, having black bellies, seem to be wrong side up. Often when attached to other fish they are in that position."

On the other hand, some modern instances of fishing with the Remora have been reported, as for instance, the account published by Mr. Holmwood, a British consul in Madagascar, published in the Proceedings of the London Zoological Society for 1884, page 411. Dr. E. W. Gudger, who has been studying the Remora, has collected a number of apparently trustworthy observations; and Dr. Townsend, director of the New York Aquarium, has made practical tests of the adhesive power of these fishes. Dr. Townsend writes:

"We used to catch a good many while I was cruising with the *Albatross*. When these fishes were thrown into tubs or buckets of sea water they took hold at once with their sucking disks and could not be detached without using considerable force. I have tied a stout cord around the tail of a 2-foot Remora which attached itself to the inside of a 2-gallon galvanized pail half filled with water, and was then able to lift the pail, fish, and water without the fish's grip giving way an inch. The pail and water weighed 21 pounds. The largest Remora in the aquarium is 32 inches long, and its cephalic disk is 7 inches long and 3 inches wide. I have no doubt that with this fish attached to a good-sized sea turtle you could land in the latter without difficulty.

"Another genus of sucking fish larger and more powerful than either the Remora or *Echeneis* is *Remiligia*, which apparently has the habit of attaching itself regularly to the bodies of Cetacea, and for that reason has come infrequently to the attention of ichthyologists."

If we come now to form an opinion as to the credibility of the original narrative of the great discoverer, weighing it in the light of modern information, there would appear to be no sufficient reason for rejecting it as improbable or the creation of a florid imagination.



MINERVA TERRACE, MAMMOTH HOT SPRINGS, YELLOWSTONE NATIONAL PARK.

At many of the springs upon the broad terraces the water presents the appearance of boiling springs, when as a matter of fact, the temperature is far below the boiling point. The violent agitation is simply due to the free escape of carbonic acid at the surface. The blue color of the water in the park is not a mineral color nor a reflection from the sky, but is the natural color of clear water in large bodies.

The National Parks of the United States is the title of a series of illustrated articles appearing in the Spanish edition of the *BULLETIN*, which picture the grandeur and beauty of these playgrounds of the Republic. The first of the series deals with the Yellowstone, the English version being as follows:

The nation that leads the world in feverish business activity requires playgrounds as well as workshops, and the United States Government is furnishing to its people playgrounds which are perhaps without rivals in the world. Just as cities are seeing the wisdom and necessity of open spaces for the children, so with a very large view the Nation has been saving from its domain the rarest places of grandeur and beauty for the enjoyment of the world.

In 11 Western States tracts of public land varying in extent from several hundred to over two million acres have been withdrawn from settlement and private exploitation and dedicated by act of Congress as national parks for the benefit and enjoyment of the people. In these great reserves may be found scenery and natural phenomena that are inspiring in their majesty and grandeur. The revelation of this wonderful possession of such beautiful regions came to many for the first time last year when thousands of tourists, unable to make their customary pilgrimage to Europe, journeyed across the continent to the Pacific coast where the exposition furnished an incentive. These travelers, who hitherto had been enticed by the beauty of the Alps and the Rhine and soft loveliness of the valleys of France, were strangely amazed when they realized that they could find equal if not more stimulating satisfaction in the mountains, rivers, and valleys that their Government had set apart for them and for all others.

Of all the national parks the Yellowstone is the largest and most widely celebrated. It is a wooded wilderness of over 2,000,000 acres, mostly in the State of Wyoming, but with narrow strips in the States of Montana and Idaho. One of its best-known features are the geysers, of which it has more than are found in the rest of the world together. Its innumerable boiling springs send forth volumes of steam to mingle with the clouds. It has many rushing rivers and large lakes; its waterfalls of great height and large volume add beauty to the scene; excellent fishing makes the park the sportsman's delight. The wide, rugged canyons, the broad areas of petrified forests, the innumerable wild animals and birds, all combine to make this the fitting playground and pleasure resort of a great people and the ideal summer school of nature study.

The first view of the geyser basins affords a sensation never to be forgotten, and the imaginative beholder acquires thrills he never before experienced. There are more than 40 geysers accessible in the three large basins on the west side, and no two are alike in their



VIEW OF THE RIVER FROM THE
CLIFFS UPON ARLETT'S POINT WHICH PEELS OUT ALMOST OVER THE FOAMING RIVER A
MOST GLORIOUS KALEIDOSCOPE

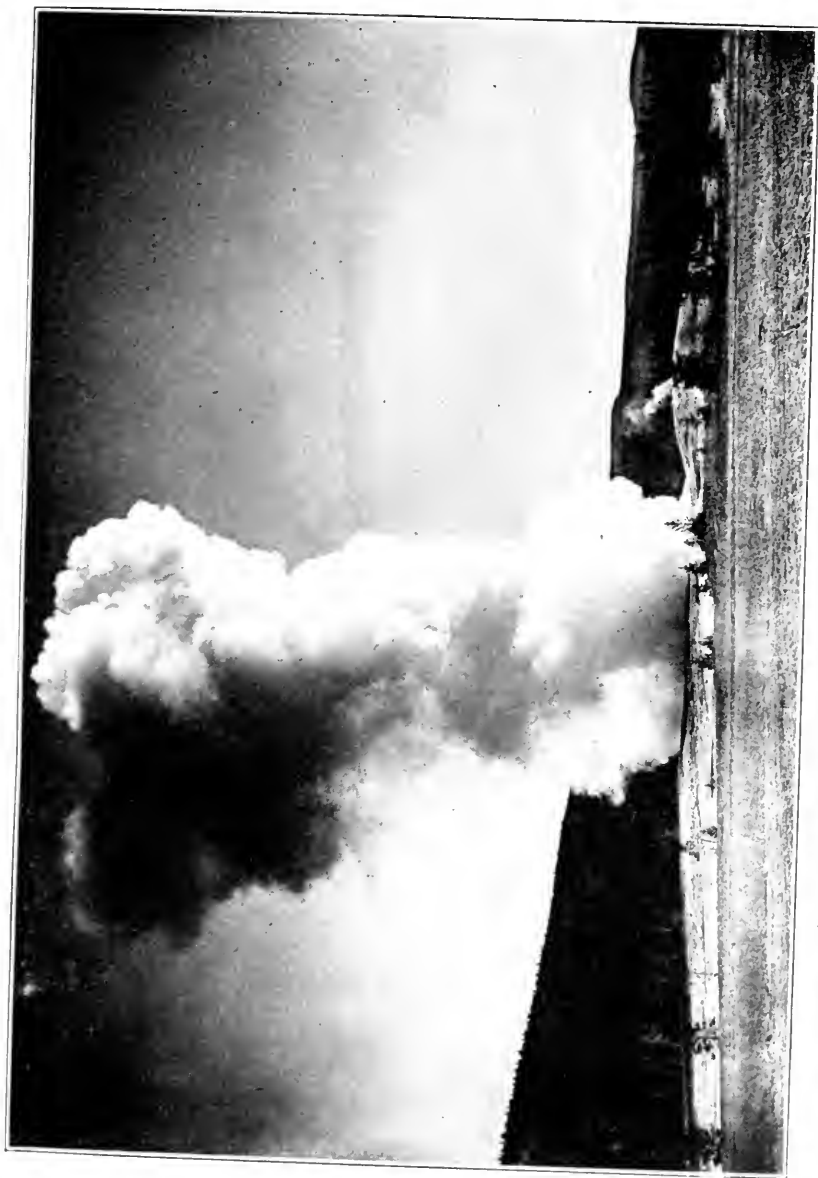


FIG. 1. BELOW THE COMPLETION OF THE ...



A GROUP OF THE HOT SPRINGS AT YELLOWSTONE.

These springs, whose marvellously clear water is a deep green, have an astonishing depth. There are nearly 6,000 of these springs and geysers. Between them there seems to be no relation, as they have different levels, color, compositions, and temperature. Some are dormant, others boil incessantly, while others have internal explosions from which large volumes of steam and acid vapors issue.



"OLD FAITHFUL," ONE OF THE NOTED GEYSERS OF YELLOWSTONE.

This geyser is known as the tourists' friend. Other geysers may be more powerful, others may throw their water higher, others may have more beautiful craters, but Old Faithful has some of each of these qualities, and, in addition, it plays often and with regularity. It had the honor of welcoming the first explorer and hunter since that day has it failed any tourist who cared to look at it. At intervals of 65 minutes it sends forth its graceful column of water to a height of over 140 feet.



THE NORRIS GEYSER BASIN AT YELLOWSTONE.

Copyright by H. E. Haynes, St. Paul

About 20 miles from Mammoth Hot Springs and at an altitude of nearly 7,500 feet. The floor of the Norris Geyser Basin is frequently covered with brilliantly tinted algaous growths which flourish luxuriantly in the warm waters.

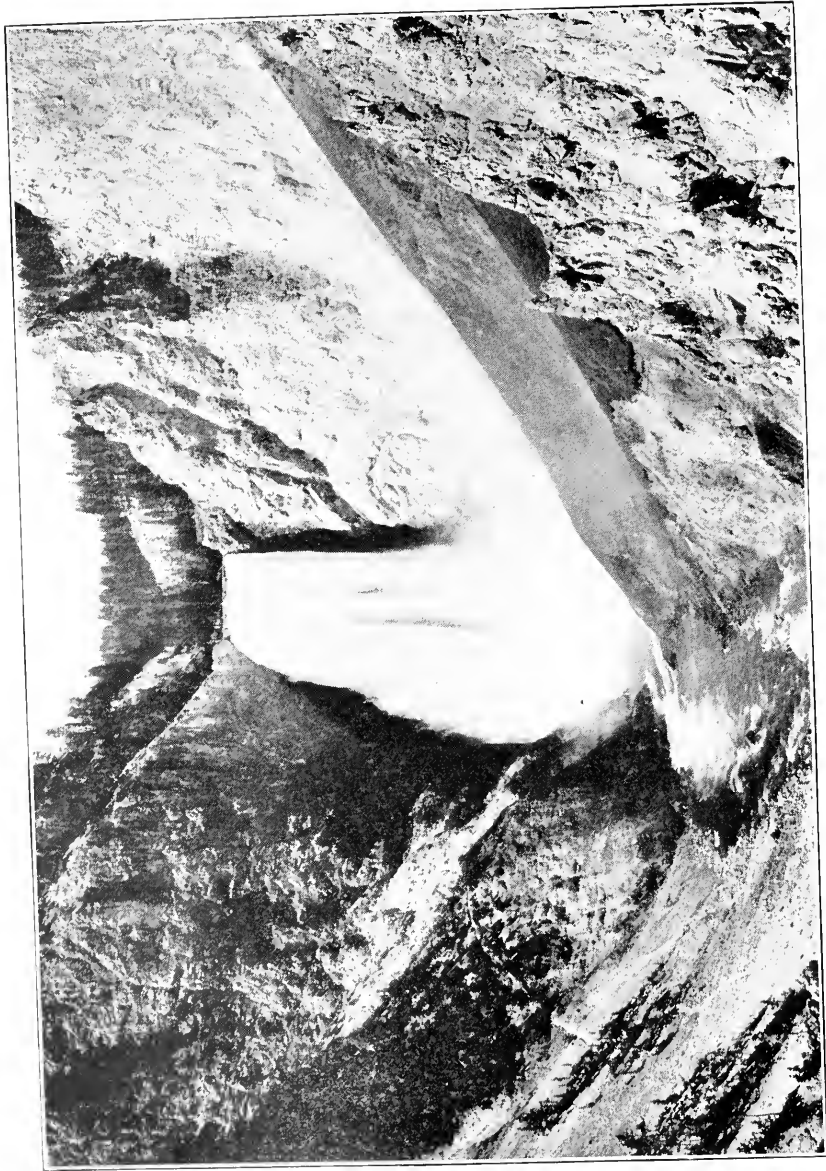
characteristics. Some spout every few seconds, some every few minutes, others at intervals of hours or days, a few at irregular intervals of weeks. The whole region bubbles and hisses and steams. The eruptions vary from several feet to 250 feet. But even when the geysers are not in eruption the basins present scenes of weird and singular beauty. Clouds of steam rise from countless vents; the gaunt trunks of trees, killed by the hot water and bleached to dazzling whiteness, stand specterlike around the edges of the basins; here and there emerald pools or a beautifully colored deposit is seen in sharp contrast to the white sinter which forms the floor. The Constant Geyser sends forth graceful jets of water to a height of about 20 feet at intervals of one minute, while the Giant Geyser is in eruption at intervals of from five to seven days. It is Old Faithful, however, which is most regular in its operations. In the 40 years that this geyser has been known to the modern tourist it has never failed to eject its slender column of water at intervals of 65 minutes.

Four miles from the northern entrance to the park are the Mammoth Hot Spring terraces which have been built up by the travertine deposited by the hot waters. From below, the glimmering terraces present the appearance of a mass of ice and snow. In places the slope is steep, as if a large portion of it had been torn away; at other points the descent is broken by series of terraces of varying height, the front of each terrace being delicately molded into the most exquisite tracery.

Impressive as are the terraces from below, the scene from the summit is even more varied and beautiful. To the east is the steep slope of Mount Evarts; to the northwest the crest of Electric Peak stands sentinel at the boundary of the park, while around and below are the brilliantly colored pools which form the outlets of the springs.

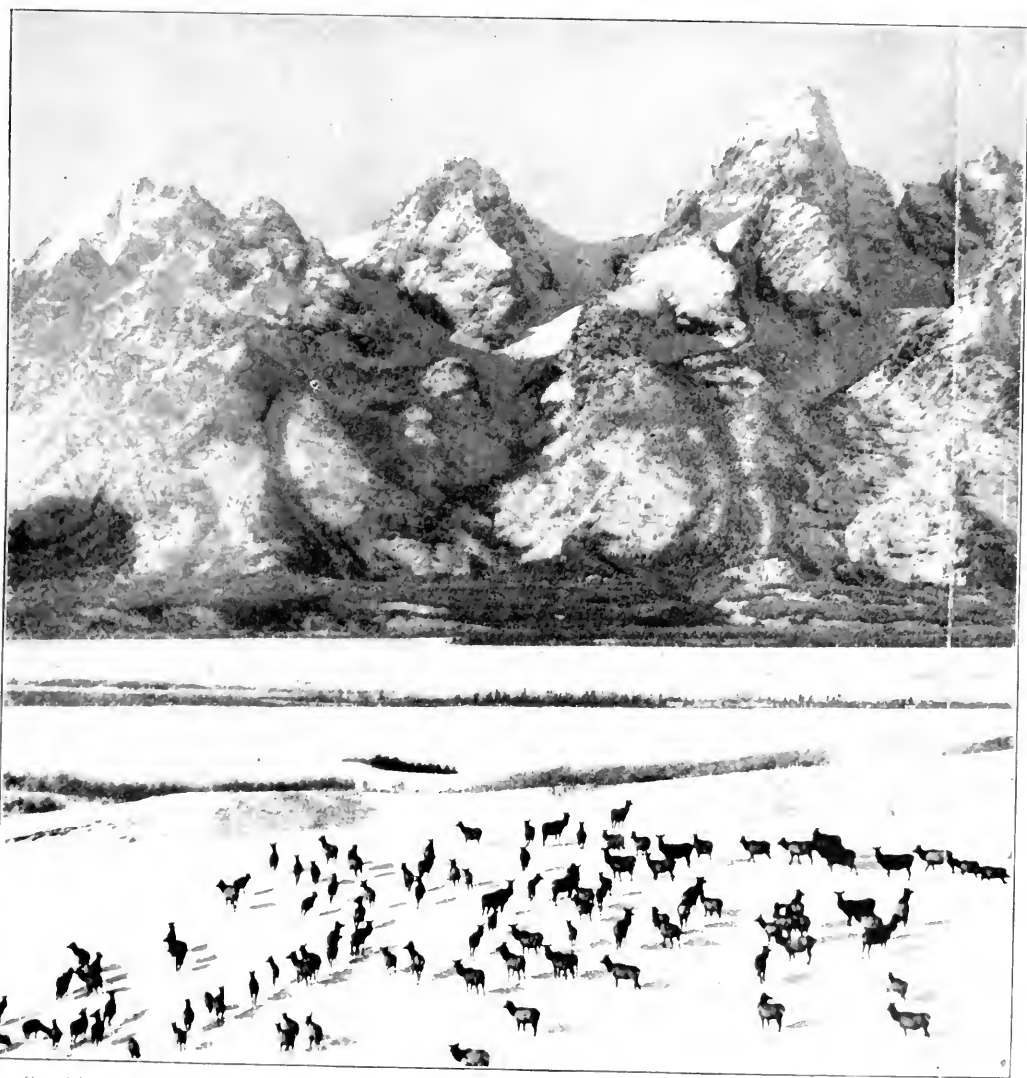
The Great Falls and the Grand Canyon of the Yellowstone River present a combination of color and rock sculpture rarely equaled in splendor. From Inspiration Point looking a thousand feet almost vertically down upon the foaming river the observer sees a glorious kaleidoscope. The steep slopes are carved by the frost and the erosion of ages. Sometimes they lie in straight lines at easy angles, from which jut high rocky prominences. Sometimes they seem carved from the side walls. Here and there the jagged rocky needles rise perpendicularly like groups of gothic spires. The whole is streaked and spotted and stratified in every shade from the deepest orange to the faintest lemon, from deep crimson through all the brick shades to the softest pink, from black through all the grays and pearls to glistening white. Kipling in his *American Notes* described the scene in these words:

One wild welter of color—crimson, emerald, cobalt, ocher, amber, honey splashed with port wine, snow-white, vermilion, lemon, and silver-gray in wide washes. The



THE GREAT FALLS OF THE YELLOWSTONE, NEARLY TWICE AS HIGH AS NIAGARA.

Below these falls the river enters the gorgeously colored Grand Canyon of the Yellowstone.



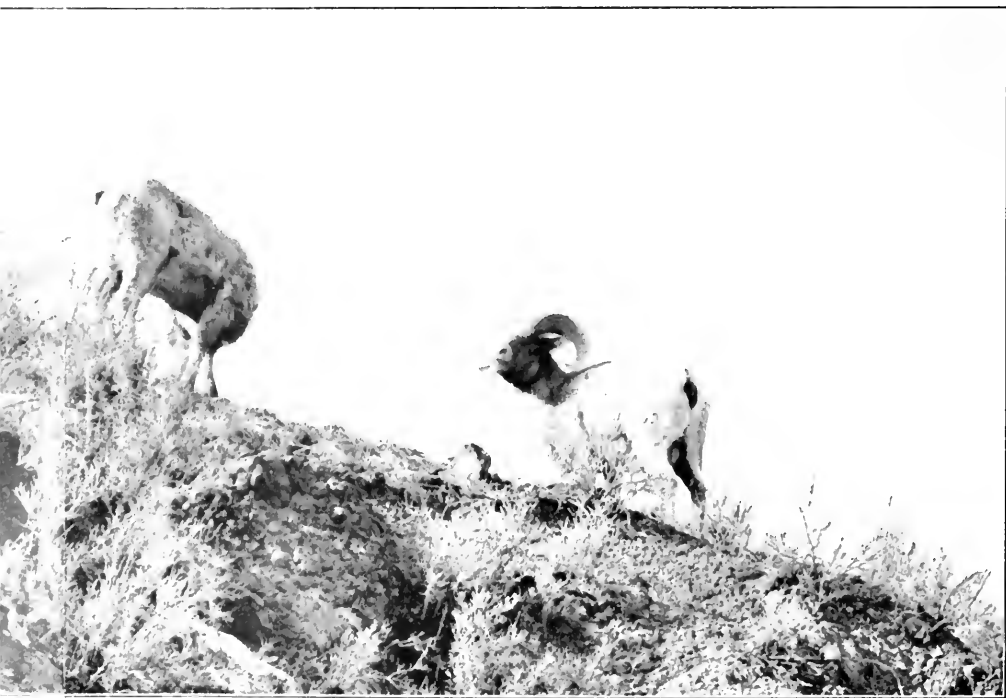
Copyright by S. N. Leek.

NEVER SHOT AT AND NEVER PURSUED, THE ANIMALS AT YELLOWSTONE ARE FEARLESS AND TAME.
In the winter when the snows are deep, park custodians leave hay in convenient spots and the animals gather at intervals to eat it.



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THIRTY THOUSAND ELK ROAM THE SANCTUARY WILDERNESS OF YELLOWSTONE.



Copyright by Schlechten.

THE YELLOWSTONE PRESERVES ARE THE NATURAL HOME OF THE CELEBRATED BIGHORN, THE ROCKY MOUNTAIN SHEEP.



Copyright by W. S. Berry.

ANTELOPES AT YELLOWSTONE PARK.



Copyright by Gifford.

YOUNG PELICANS ON PELICAN ISLAND IN YELLOWSTONE LAKE.
The pelicans are very large and pure white, and form a picturesque feature of the park.



Photograph by Edward S. Curtis.

THE HERDS OF BUFFALO AT YELLOWSTONE.

There are two prosperous herds of bison, or buffalo, both increasing rapidly. The wild herd has declined from a few animals which broke through the tame herd corral some years ago and sought refuge in the eastern wilderness.

sides do not fall sheer, but were graven by time and water and air into monstrous heads of kings, dead chiefs, men and women of old time. So far below that no sound of its strife could reach us, the Yellowstone River ran—a finger-wide strip of jade green. * * * The canyon was burning like Troy town, but it would burn forever, and, thank goodness, neither pen nor brush could ever portray its splendors adequately.

As a wild-animal preserve the park is equally noteworthy. Since its establishment in 1872 hunting has been strictly prohibited, and elk, bear, deer of several kinds, antelope, bison, moose, and bighorn mountain sheep roam the plains and mountains in large numbers. Thirty thousand elk, for instance, live in the park. Antelope, nearly extinct elsewhere, here abound. These animals have long since ceased to fear man as wild animals usually do elsewhere. To really see these animals in abundance and in their natural haunts it is but necessary to linger a bit in the glorious wildernesses of the park. Never shot at and never pursued, the animals are comparatively as fearless as song birds nestling in their trees. Wilderness bears cross the road without haste a few yards ahead of the solitary passer-by. Deer by scores lift their antlered heads above near thickets to watch his passing. Elk scarcely slow their cropping of forest grasses. Even the occasional moose, straying far from his northern wilderness, scarcely quickens his long lope. Herds of antelope on near-by hills watch but hold their own.

Only the grizzly and the mountain sheep, besides the predatory beasts, still hide in the fastnesses of the woods. But the mountain sheep loses fear and joins the others in winters of heavy snow when park rangers scatter hay along the roadside.

Famous for its scenic wonders; noteworthy for its animal preserves, Yellowstone is equally remarkable for its splendid rivers and excellent fishing. Three watersheds find their beginnings within its borders, and all are trout waters of high degree. And to increase the opportunities for fishing in these waters additional varieties of trout have been planted. Besides stream fishing, the lakes, particularly the smaller ones, also afford good sport.

The United States Department of the Interior, which administers the affairs of the national parks, is bending every energy to popularize these places as recreative possibilities for the people. Three railroads have connections with the park entrances. Five large hotels are located at points convenient for seeing the sights, and there are a dozen or more public camps. The tourist can see the wonders of Yellowstone in five days, the period required by the regular transportation companies to make the circuit. But to include all that may be enjoyed here, two weeks is better, and a month is ideal.



FOREIGN COMMERCE OF CHILE FOR 1915

ACCORDING to a recent report of the Central Bureau of Statistics, the total foreign trade of Chile for the year 1915 was 475,420,775 pesos gold, represented by imports to the value of 153,211,557 pesos, and exports of 322,209,218 pesos. In 1914 the imports were 269,756,699 pesos; exports, 299,675,435 pesos; total, 569,432,134 pesos.

In figures of United States currency, estimating the Chilean gold peso at 36.5 cents (18d. sterling), the foreign trade for the year 1915 was: Imports, \$55,922,218; exports, \$117,606,365; total, \$173,528,583. The figures for the preceding year were: Imports, \$98,461,195; exports, \$109,381,534; total, \$207,842,729. There was therefore for the year 1915 as compared with 1914, a decrease in imports of \$42,538,977, and an increase in exports of \$8,224,831, or a net decrease in the year's foreign trade of \$34,314,146.

IMPORTS BY COUNTRIES.

[Values in United States gold.]

Countries.	1913	1914	1915
United States.....	\$20,089,158	\$20,148,576	\$18,638,455
United Kingdom.....	36,109,211	22,309,086	13,308,770
Germany.....	24,578,138	25,889,771	3,583,589
India.....	3,187,043	1,979,472	2,708,610
Italy.....	3,176,281	1,976,513	1,732,890
France.....	6,623,260	4,206,107	1,700,383
Australia.....	3,343,832	6,269,379	1,203,806
Spain.....	1,135,883	905,681	757,992
Sweden.....	30,108	23,711	192,239
Denmark.....	3,889	21,427	410,347
Belgium.....	5,671,427	4,151,572	405,615
Norway.....	49,848	153,828	316,746
Netherlands.....	67,211	200,466	162,076
Portugal.....	146,111	101,370	50,805
Other countries.....	11,062,298	19,118,433	10,312,148
Total.....	120,274,001	98,461,195	55,922,218

EXPORTS BY COUNTRIES.

[Values in United States gold.]

United States.....	\$30,114,386	\$41,434,211	\$50,199,213
United Kingdom.....	53,518,311	40,011,307	40,582,111
Germany.....	30,772,713	18,078,986	.....
France.....	8,817,885	1,215,128	3,551,092
Egypt.....	101,506	1,011,701	2,388,251
Australia.....	22	151,778	1,951,569
Russia.....	.....	.....	1,827,425
Japan.....	1,333,181	825,198	1,729,629
Italy.....	652,032	758,191	1,708,816
Spain.....	987,171	1,476	1,610,520
Denmark.....	.....	508,642	1,317,897
Netherlands.....	1,470,103	3,290,996	1,115,628
Portugal.....	657	.....	501,916
Sweden.....	.....	832,150	297,075
Foreign merchandise exported.....	1,851,755	1,954,221	2,011,919
Belgium.....	5,671,869	3,141,558	.....
Other countries.....	3,600,378	2,789,156	5,912,964
Total.....	111,653,312	109,381,534	117,606,365

SUBJECT MATTER OF CONSULAR REPORTS

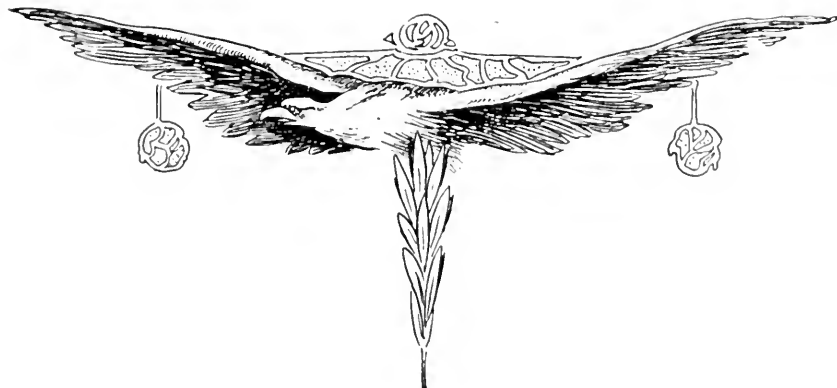
REPORTS RECEIVED UP TO AUG. 15, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
Bolivian steamship service to Rosario.....	1916. June 28	Wm. Dawson, jr., consul, Rosario.
Financial credits for farmers.....	July 12	W. Henry Robertson, consul general, Buenos Aires.
BRAZIL.		
Meat industry.....	June 23	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Market for pianos.....	June 28	Robert L. Keiser, vice consul, Sao Paulo.
American millinery.....	July 7	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Brazilian hardwoods.....	July 10	Do.
Coal imports for June, 1916.....	do.	Do.
Annual report on commerce and industries of Para, 1915.....	do.	George H. Pickerehl, consul, Para.
Branch of Banco Nacional Ultramarino in Para.....	July 11	Do.
Poultry show for Rio de Janeiro.....	do.	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Prices of gasoline at Rio de Janeiro.....	July 13	Do.
Tax on imported codfish.....	July 14	Do.
Scarcity of paper.....	July 15	Do.
Report of discovery of oil on Hualaga River, Peru.....	do.	George H. Pickerehl, consul, Para.
CHILE.		
Annual report on commerce and industries for 1915 (second part).....	June 7	L. J. Keena, consul general, Valparaiso.
Export and import trade of Chile, 1910-1915.....	June 15	Do.
Production, exportation, and consumption of certain Chilean products in last 9 years.....	do.	Do.
Importation of gasoline, crude petroleum, grease, and asphalt, 1913-1915.....	June 16	Do.
Importation of wheat flour, 1915.....	June 20	Do.
Obligatory primary instruction in Santiago.....	June 24	Do.
Change of time in Chile.....	June 26	Do.
Delay in mail from United States to Chile.....	July 8	Do.
CUBA.		
Laws governing conditional sales in Cuba.....	July 11	Henry M. Wolcott, consul, Habana.
Bakery machinery.....	July 19	Do.
Preparation of shipping documents.....	July 28	Do.
Farm tractors.....	Aug. 2	Do.
Pineapple exports.....	Aug. 4	Do.
ECUADOR.		
Imports of petroleum and products, and explosives for 1914 15....	June 9	Frederic W. Goding, consul general, Guayaquil.
Agricultural education.....	June 14	Do.
Course in agriculture.....	June 16	Do.
Monument to Vicente Rocafuerte.....	June 17	Do.
GUATEMALA.		
Silk trade of Guatemala (imports for 1913 14).....	June 13	Stuart Lupton, consul general, Guatemala.
Annual report on commerce and industries for 1915 (statistics only for 1913-14).....	July 4	Do.
HAITI.		
Commerce and industries for 1913-1915.....	June 15	Lemuel W. Livingston, consul, Cape Haitien.
HONDURAS.		
Art calendars.....	June 29	E. M. Lawton, consul, Tegucigalpa.
Conditions in Puerto Cortes district.....	July 11	Walter F. Boyle, consul, Puerto Cortes.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to Aug. 15, 1916—Continued.

Title.	Date?	Author.
HONDURAS—Continued.		
Increased commercial importance of Tela.....	1916, ² July 15	Wm. Spencer, chargé d'affaires, Tegucigalpa.
Revival of cattle shipments from Puerto Cortes.....	July 21	Walter F. Boyle, consul, Puerto Cortes.
Baseball in Honduras.....	July 31	Do.
MEXICO.		
The commercial situation.....	June 8	Wm. W. Canada, consul, Vera Cruz.
Decree regulating customs districts.....	July 22	Do.
Exports of ixtle and calamine.....	July 25	Wm. P. Blocker, vice consul, Piedras Negras.
Regulations governing fishing in Mexican waters.....	July 31	Wm. W. Canada, consul, Vera Cruz.
NICARAGUA.		
Annual report on commerce and industries, 1915.....	June 17	John A. Gamon, consul, Corinto.
Commerce and industries, 1915 (second section).....	June 23	Cornelius Ferris, jr., consul, Bluefields.
PANAMA.		
Annual report on commerce and industries (second section).....	June 29	Julius D. Dreher, consul general, Panama.
Population of Canal Zone.....	July 3	Do.
Fire in Colon.....	July 10	Do.
PARAGUAY.		
Market for cotton manufactures.....	June 14	Samuel Hamilton Wiley, consul, Asuncion.
Translation of law extending budget law for 1916.....	June 22	Do.
Translation of law establishing import and export surtax.....	June 27	Do.
PERU.		
Ruling regulating customs duty on proprietary medicines.....	June 24	William W. Handley, consul general, Callao-Lima.
Annual report on commerce, industries, and finances for 1915 (figures only for years 1913-14).....	June 30	Do.
Exportation of Peruvian rice.....	July 17	Do.
VENEZUELA.		
Commerce and industries, 1915 (second section).....	July 12	Homer Brett, consul, La Guaira.



ARGENTINE REPUBLIC

The Argentine Republic occupies the first place among the countries of Latin America in the number of kilometers of RAILWAYS in operation, and the ninth place among the countries of the world. The total length of the railways of Argentina at the present time is 36,117 kilometers. The total capital invested in the railways of the nation at the present time aggregates 1,342,500,000 gold pesos. ———The FOREIGN COMMERCE of the Argentine Republic during the first three months of 1916 amounted to 179,633,584 gold pesos (gold peso = \$0.9647 U. S.), made up of imports, 52,491,534 pesos, and exports, 127,142,050 pesos. The principal countries from which imports were obtained were: United Kingdom, 14,910,143 gold pesos; United States, 14,491,389, showing an increase of 6,982,200 pesos, or 92.9 per cent over the 1915 period; Italy, 6,036,429; France, 3,875,150; Spain, 3,395,967; and Brazil, 2,537,832 gold pesos. The principal countries to which exports were sent were: United Kingdom, 37,375,185 gold pesos; United States, 29,728,301, showing an increase of 4,595,982; Brazil, 5,407,491; Italy, 5,136,399; Netherlands, 4,086,354; and Spain, 1,742,156 gold pesos. Among the articles exported during the first quarter of 1916 were: 15,634 head of cattle 6,490 horses, 90,223 tons of frozen beef, 3,173 tons of chilled beef, 12,805 frozen carcasses of sheep, 15,761 tons of salted ox hides and 4,207 tons of dry hides, 39,741 tons of wool, 2,692 tons of butter, 25,656 tons of quebracho extract and 56,745 tons of quebracho logs. Grain exports in tons were: Oats, 130,554; barley, 19,277; linseed, 279,807; maize, 455,298; wheat, 669,330; flour, 27,983. ———The Government of the Province of San Luis has submitted a law to the legislature taxing the production of WOLFRAM 30 centavos per kilogram. The growing importance and demand for this mineral and its rapid rise in price make it an important source of revenue to the Province. ———Important deposits of TIN bought by a North American Company near the city of Tinogasta, Province of Catamarca, are being extensively exploited and shipments of bars to the United States have already been made. ———An executive decree of May 31, 1916, prohibits the exportation of SUGAR and authorizes the importation, free of duty, of 15,000,000 kilos of raw or refined sugar. ———According to official figures of the department of statistics, Argentina in the 10 years from 1902 to 1912 imported from Paraguay and Brazil 503,000 tons of YERBA MATE valued at 120,000,000 pesos paper. The purchase by Argentina of this one commodity represented one-fourth of the value of Paraguay's total commerce and two-thirds of the total budget of expenses of the Brazilian State of Parana. The consumption of this product has

increased from 6 kilograms per inhabitant in 1902 to over 8 kilograms at present, and it is estimated that by 1922 Argentina will be importing over 100,000 tons at an annual cost of 25,000,000 pesos. The Government is now making every effort to foster the domestic industry.——In October next Dr. Ernesto Quesada, the eminent Argentinian scholar, will begin at Harvard University his course of lectures on ARGENTINE CONSTITUTIONAL HISTORY. Students taking the course will have a long list of themes from which to make selections for theses.——A recent decree of the ministry of public instruction provides for the creation of a POLYTECHNIC INSTITUTE at Rosario, for which complete courses in the higher technical studies have already been mapped out.——Arrangements similar to those recently made for handling DRUMMERS' SAMPLES in Brazil have been effected with the Argentine customs authorities whereby such samples are now admitted free of duty on the deposit of adequate security.——An ARGENTINE OCEANOGRAPHIC COMMISSION has recently been organized in Buenos Aires with the object of developing the maritime industries and possibilities of the Republic and of promoting a knowledge of and interest in all things pertaining to the sea. It proposes to establish an oceanographic institute at some suitable point near the coast and also biological stations.——The Argentine ministry of agriculture has employed a Japanese rice expert and is distributing large quantities of seed with a view to promoting and perfecting its cultivation. The best success obtained so far has been in the Provinces of Tucuman, Salta, and Jujuy, where the present crop has yielded 2,500,000 kilos of RICE as compared with 500,000 in 1915. Arrangements were made for its milling in Tucuman and Salta to the best advantage of the growers, and the area devoted to rice will be largely increased in future.——According to the last CENSUS of June 1, 1914, the number of Argentinians, including the children of foreign parentage born in the Republic and naturalized foreigners to the number of 33,219, was 5,527,285, and the number of foreigners 2,357,952. Of the total number of foreigners 777,845 were in the Federal capital. Classified according to sex, there were 2,753,214 Argentine males and 2,774,071 Argentine females. Of the foreigners, 1,473,809 were males and 884,143 females.——The famous Argentinian AVIATORS, Zuloaga and Bradley, recently won new laurels for Argentine aviation by their successful flight over the most difficult part of the Andes by way of the Uspalata Pass.——To encourage increased cultivation and production of IRISH POTATOES in the Provinces of San Juan, Mendoza, Buenos Aires, and in the Territories of Rio Negro and Chubut, the ministry of agriculture has recently distributed seed potatoes among the agriculturists and offered valuable cash pre-

miums for the best yields of each one of the varieties in each zone. —According to La Capital of Rosario, the area under cultivation in the Province of Rosario increased from 1,048,352 hectares in 1915 to 1,343,600 hectares in 1916, showing an increase of 295,248 hectares in 1916. The latest crop reports for the district are most satisfactory. —BUSINESS FAILURES during the first six months of 1916 show a decrease in respect to total liabilities of over 60 per cent as compared with the corresponding period in 1915.

BOLIVIA

The Bolivian PRODUCTION OF TIN for the year 1915 is given in considerable detail in El Diario, of La Paz, under date of June 22, 1916. The report shows each mining locality and the amount produced. Comparative tin production of the world, according to the statement, indicates that Bolivia is the second country in importance, and the percentage is given at 29.97; the Straits Settlements produced 54.59 per cent; other countries 15.44 per cent. —The same paper in reviewing the OUTPUT OF WOLFRAM for the first four months of 1916, shows that of the amount 792,511 kilograms, the United States bought 435,708 kilograms and Great Britain 356,803 kilograms. —“INTERNATIONAL HISTORY OF BOLIVIA” is the title of a recent work on Bolivia by Don Miguel Mercado, of Cochabamba. The author reviews many public and international questions and the book has received high commendations by the press of Bolivia. It is written in Spanish. —THE COST OF LIVING is a subject to which El Diario of La Paz of June 6 devotes several columns. It is shown that Buenos Aires is higher than La Paz, but with that exception it costs more to live in Bolivia than in any of the neighboring countries. Living in Chile is placed at only about half the expense of Bolivia; and in Peru the necessary expenses are 30 per cent lower than in Bolivia. Among the reasons given are lack of production of suitable crops; for instance, wheat and potatoes could be produced in Bolivia in far greater quantities, thereby lessening the cost; expensive transportation is another cause, but additional railways are likely to correct to some extent this excessive cost, as they reach into agricultural regions like Cochabamba and the Yungas. —Construction work on the RAILWAY TO THE YUNGAS made satisfactory progress during the year ending April 30 last. At times more than 900 men were employed daily in leveling the right of way and in the building of bridges. When completed this new road will be a most important commercial artery through which Bolivian agricultural products will reach the capital and other cities of the high plateau.

The line will ultimately be built to Puerto Pando, about 200 miles north of La Paz.——Sr. Don Juan Maria de Zalles, a former candidate for the Presidency, was received in Lima as MINISTER FROM BOLIVIA, and Sr. Don Felipe de Osma y Pardo, a distinguished Peruvian, presented his credentials in La Paz as MINISTER FROM PERU to Bolivia. Both gentlemen are experienced diplomats and statesmen and each country congratulates the other on the appointments.——Newspaper reports show the FOREIGN COMMERCE of Bolivia for the first four months of 1916 to be as follows: Exports, 40,178,578 bolivianos, or 17,291,792 bolivianos greater than for the corresponding period of 1915. Imports first four months of 1916 were 8,008,604 bolivianos, or 1,089,289 more than for the corresponding months of 1915 (boliviano=\$0.3893 U. S.).——As a means of developing PHYSICAL CULTURE as well as the sport, the football association of La Paz has been very active recently in arranging contests and otherwise encouraging young men to join the association.——The young BOLIVIAN AVIATOR, Juan Mendoza, has passed examinations in Buenos Aires and obtained a pilot's license. He is said to have displayed unusual skill in the use of aeroplanes.——The Government of Bolivia will construct A RAILROAD between Potosi and Sucre, a decree to that effect having been recently signed. The distance between the cities is about 150 miles, and at present the traffic in passengers and freight is conducted by means of automobiles.

BRAZIL

The FOREIGN COMMERCE of Brazil for the first five months of 1916 showed increases of \$3,587 contos paper (conto paper = about \$250 U. S. currency) in imports and 50,686 contos in exports, as compared with the corresponding period in 1915.——The University of Lisbon has recently established in its Department of Liberal Arts and Sciences a chair dedicated exclusively to BRAZILIAN STUDIES.——Plans and preparations are already under way for holding the twentieth INTERNATIONAL CONGRESS OF AMERICANISTS in Rio de Janeiro, June 15 to 30, 1918.

——In his MESSAGE to Congress of June 18, the President of the State of Minas Geraes calls attention to the State's flourishing condition. A statement of the finances of the State shows that in 1915 there was a surplus of 9,715 contos paper over the expenses as budgeted for the year. The value of exports increased from 164,756 contos in 1914 to 221,099 contos in 1915. Exports of manganese increased from 246,198,000 tons in 1914 to 303,060,000 tons in 1915. Exports of frozen meat increased in value from 1 conto in 1914 to

6,122 contos in 1915, and are still increasing considerably, exports to the value of 4,840 contos being made in the first 4 months of 1916. —The SANTOS FISH CO. has established an agency at Curityba with facilities for refrigeration and arrangements have been made with the railway companies for refrigerator cars to transport the fish. —A Porto Alegre firm has sent a trial shipment of 3,000 bags of BEANS to the United States. —The State of Rio Grande do Sul has recently shipped to Argentina 800 carloads of HARDWOODS and it is estimated that there are over 600 contos worth of hardwoods ready for shipment at different points in the State. —The factory for the manufacture of TANNING EXTRACT from mangrove bark and leaves, situated at Sao Vicente near Santos, has recently increased its plant and asked for further extensive concessions in the mangrove-bearing zones of the State of Sao Paulo. —A new AGRICULTURAL COLONY has recently been established in the State of Matto Grosso on Government lands situated near the old colony of Ponte Alta, which was founded some 10 years ago. The new settlers to the number of 300 will cultivate cereals on a large scale, especially rice, for which the land is well adapted. —The EXPORTATION OF FRUIT from the State of Rio de Janeiro has more than doubled in the past 10 years, due to the great reduction in freight rates by the Royal Mail steamers. The exportation of pineapples increased from 100,000 kilos in the year 1915 to 400,000 kilos in the first two months of 1916. —Exports of RUBBER increased from 33,531 tons valued at 113,598 contos in 1914 to 35,165 tons valued at 135,786 contos in 1915. —During the year 1915, 8,513 tons of FROZEN MEAT valued at 6,122 contos paper were exported from Brazil, 93 per cent of which was through the Port of Santos and 7 per cent through Rio de Janeiro. During the first six months of 1916, the exports aggregated 12,390 tons valued at 9,772 contos paper, 62.8 per cent of which was from Santos and 37.2 per cent from Rio de Janeiro. It is estimated that the total exports for 1916 will reach from 40,000 to 50,000 tons worth from 32,000 to 40,000 contos paper. The value of hides exported increased from 14,384 contos in the first four months of 1915 to 25,241 contos in the corresponding period of 1916, and estimates place the total value of hide exports for 1916 at 80,000 contos. With meat exports of 40,000 contos and hide exports of 80,000 contos Brazil would rank second in this industry among exporting countries. —Exchange of ratifications has recently been effected of the PARCEL POST CONVENTION signed on October 31, 1914, in Rio de Janeiro by the representatives of the Governments of the Argentine Republic and Brazil. A similar convention was negotiated on June 23, between Chile and Brazil. —The BRAZILIAN MEAT PRE-SERVING CO. was organized in Rio de Janeiro on June 20 to exploit

the new process recently patented by a Brazilian for preserving meats without refrigeration. Tests of the new method have given most satisfactory results and as it is much less costly than the refrigerating process, it is expected that a great impetus will be given to the meat industry.——Plans have been completed for holding the **FIRST BRAZILIAN CATTLE CONFERENCE** in Rio de Janeiro, November 15 to 30, 1916, and a program of the important questions to be discussed has been issued.

CHILE

As a complement of the industrial exhibit to be held in the national capital in September, 1916, under the auspices of the Society for the Encouragement of Manufactures, arrangements have been made to hold a **PERMANENT EXPOSITION** at 759 Moneda Street, Santiago, not only for the purpose of making known to foreigners who visit the metropolis of the nation the state of the industrial development of the country, but also as a matter of information to Chilean manufacturers and capitalists who contemplate engaging in industrial enterprises in the Republic. The *Mercurio* of July 16 last publishes a list of over seventy exhibitors who propose to take part in this exposition.——The Dental School of Santiago, and the Dental Society of Chile have taken preliminary steps toward the holding of a **PAN AMERICAN DENTAL CONGRESS** in Santiago in the early part of October, 1917. An organizing committee has been formed consisting of the following members: Dr. Germán Valanzuela Basterica, honorary president; Dr. Alejandro Manhood, president; Dr. Arturo Sierra, and Dr. Luis Raveau, vice presidents; Dr. Pedro Labarca Hubertson, general secretary; Dr. Luis A. Azócar and Dr. Alfredo Beteley, secretaries, and Dr. Carlos E. Bolton, treasurer. The Congress will be divided into nine sections, covering the entire field of dentistry. Membership dues have been fixed at £1 or 25 Chilean pesos, currency. Papers to be submitted to the Congress must be received in the office of the Secretary General not later than July 1, 1917. In 1913 a dental congress of the Americas was held in Brazil, and in San Francisco in 1915. International dental congresses have been held in Paris in 1889; in Chicago in 1893; in Paris in 1900; in St. Louis in 1904; in Berlin in 1909, and in London in 1914.——The representatives of the Governments of Chile and Bolivia recently signed in La Paz a **CONVENTION** providing for the exchange of official publications, or publications subventioned by the respective Governments, as well as maps, charts, etc., issued by said Governments.——C. Henriquez, director of the Meteorological Institute at Santiago, has been commissioned by the Chilean Gov-

ernment to go to Buenos Aires and study the organization and management of the weather bureaus of the Argentine Republic.—— In 1915 the production of WINE in Chile amounted to 400,000 liters (liter=1.05668 qts.), as compared with a production of 482,300 in the Argentine Republic.——The polyclinic of the new building of the San Juan de Dios HOSPITAL in Valparaiso was opened to the public on July 8 last in the departments for the treatment of diseases of the eye, ear, and throat, the teeth, diseases of children, the application of the Roentgen rays, and venereal diseases. About 300 persons daily are given free medicine and medical attention in the departments referred to.——A recent SCHOOL CENSUS of the City of Iquique shows that there are 5,703 children of school age in that municipality, 2,950 of whom are male and 2,753 female. Of this number 4,259 attend school, and for various causes, such as sickness, work, absence from the city, under 6 years of age, lack of room in the school buildings, etc., 1,444 are reported nonattendant.——The rules and regulations adopted by the Government of Chile concerning the admission of FOREIGN DENTISTS to practice in the Republic, require that the applicant shall secure permission from the rector of the University of Chile to take the examination. The foreign diploma, duly legalized, must be attached to this permission, and these documents, together with 500 pesos (paper peso=about \$0.15) for a Chilean diploma or license to practice, must be deposited in the office of the secretary of the University of Chile, and if the required examination is passed, the applicant will be authorized to practice in the Republic. Persons holding dental diplomas from schools not recognized by the Government of Chile are required to complete the third year's work of the dental department of the University of Chile and pass a satisfactory examination before license to practice will be issued.——The net earnings of the TARAPACA WATERWORKS CO. in 1915 amounted to £37,037 (£=\$4.8665), as compared with £38,681 in 1914.——A new HOSPITAL in Santiago was inaugurated on June 22, 1916, under the name of "Children's Hospital Manuel Arriarán." The directors of this hospital are Germán Riesco and Alejandro del Río. The President of the Republic took part in the inaugural ceremonies.



In his recent MESSAGE to the extra session of Congress, President Jose Vicente Concha refers to the reduced expenses in all administrative departments, satisfactory international relations, and other important matters of his administration. The foreign commerce of

the country is steadily increasing, as shown by the customs receipts for May and June, though the crisis in the shipping trade is still acute, due to lack of shipping facilities. The revenues of the State show a gradual increase, making new levies unnecessary, all domestic and foreign treasury obligations have been punctually paid, and a strict compliance with all duties as a sovereign republic has been observed during his administration. The Colombian and foreign press comment most favorably on the message.——In a decree of June 17, 1916, President Concha named the following specific matters for consideration at the extraordinary session of Congress: Amending present methods of preparing the national budgets; order and method of paying national obligations; new banking law; coinage and recoinage; official paper and stamp regulations; public highways; construction of Tolima Railway; and other important questions. Congress has already passed favorable legislation on completing the Tolima Railway and other questions cited by the President.——A CASTOR OIL FACTORY has recently been constructed in the town of Carmen, North Santander, from which a shipment of 10,000 pounds of oil has already been made to the United States.——On July 20, a new BANK with a capital of \$200,000 was opened at Monteria.——The President of the Republic has appointed Dr. Surí Salcedo, MINISTER OF THE TREASURY, and Sr. Luis Montoya Santamaria, MINISTER OF AGRICULTURE.——An Executive decree of June 13, 1916, provides for the improvement of the PORT OF GIRARDOT, in the Magdalena River, in accordance with the law passed in 1913. An honorary board composed of citizens of Girardot and an expert engineer were appointed to supervise the port works, to be paid for by the use of 20 per cent of the fluvial tax, which was authorized in 1881.——The Diario Oficial of June 23 gives a complete list of all MEMBERS OF CONGRESS elected for the four-year period 1915-1919.——The city of Medellin has opened to public subscription a loan of \$400,000 for constructing a city AQUEDUCT.——The President of the Republic has named Mr. Adolfo Concha technical telegraph inspector in Colombia, and Mr. Saturno Zapata, chief of inspection in the Bogota zone, to visit the United States and buy some TELEGRAPH APPARATUS suited for use in Colombia.——The NATIONAL REVENUES in 1915, according to statistics compiled by the Treasury Department, amounted to \$41,464,908 gold. Antioquia and Cundinamarca were the two departments giving the most revenue, and Huila and Cauca the two giving the least. The departments showing the most revenue per capita were: Atlantico, \$3.98 per inhabitant; Balle, \$3.44; Antioquia, \$3.38; and Magdalena, \$3.13.——The city of Bogota has contracted a loan of \$500,000 to be expended in creating a GARDEN CITY between Bogota and Chapinero and in beautifying the national capital.

COSTA RICA

The BUDGET for the fiscal year 1917 has been submitted to Congress by the President. It calls for an expenditure of 8,977,460 colones (colón=46.53 cents), on an estimated revenue basis of 7,485,000 colones, and certain measures are recommended by the executive to cover the estimated deficiency.——The Government of Costa Rica has ratified the convention on trade-marks and copyrights as indorsed by the Fourth Pan American Conference, held in Buenos Aires in 1910.——Congress has recently passed a law granting pensions to telegraphers in the NATIONAL TELEGRAPH SERVICE who, after serving for 20 consecutive years, become incapacitated in any way for further service. The pension is not to exceed two-thirds of the salary received by the applicant at the time of his retirement. An annual leave with full pay is also granted to all public employees in the service who have received no disciplinary correction during the year.——The steamer *Grafaxé* recently cleared from Limon with a cargo of 1,500 tons of SUGAR, mostly brown, for the English markets. Costa Rica's exports in this commodity are rapidly increasing.——The canton of Montes de Oro, situated in the Province of Puntarenas, will in future have NEW BOUNDARIES as prescribed by a law promulgated by the President on July 21, 1916.——A bill has passed Congress approving on certain conditions the sale of 20,000 hectares of land situated in the reserved zone of Astua-Pirie, to Mr. Herbert Houston, for the cultivation of BANANAS and CACAO. A company is to be organized within six months in the United States, with a capital of not less than \$6,000,000, for exploiting these lands and others that may be acquired.——Congress has approved a contract granting permission to Sr. Guillermo de la Guardia Tinoco to locate a plant in Costa Rica for the manufacture of Portland CEMENT.——The steamer *Izabal* is now undergoing repairs at Panama and will shortly enter the coastwise trade between Puntarenas, Panama, and the Canal Zone, running on a regular schedule and handling especially the fresh FRUITS AND VEGETABLES grown on the coast for the Canal Zone.——A bill has been sanctioned by Congress authorizing the executive to contract a loan of \$500,000 for the construction of a WHARF at Puntarenas, the Pacific terminal of the Pacific Railway. The bill provides for a wharfage tax of 2 centimos per kilogram, instead of the present rate of half centimo, for payment of the interest and amortization of the loan.——The Gaceta of July 27 gives the full text of the new educational plan recently approved by Congress for SECONDARY EDUCATION, which makes the proper correlation between primary and secondary instruction, so that the student will

receive in the primary schools sufficient rudimentary education and preparation for higher or special work.——Negotiations are pending for a steamer to bring a cargo of coal for the Pacific Railway, which upon its return from Costa Rica to the United States is to be loaded with a cargo of MANGANESE.——The CENTRAL AMERICAN STEAMSHIP CO. has been organized in Costa Rica, and it is understood the new company will put four steamers of about 2,000 tons each in the service between the Pacific coast, Panama, New Orleans, and New York.——The secretary of finance has announced that arrangements have been made with New York bankers for renewal of the LOAN CREDIT of \$500,000, and that from July 13, 1916, his department will resume the sale of sight drafts on New York.——By a recent executive decree a new park, located in the northeast section of San Jose, has been named "Parque Bolivar," in honor of the memory of the great Venezuela patriot and liberator, Simon Bolivar.



The Isle of Pines Fruit Growers Exchange has agreed to market all the GRAPEFRUIT handled by it for United States and Canada markets through the North American Fruit Exchange of New York City during the season of 1916-17; that is to say, from July, 1916, to June, 1917, inclusive. The fruit is to be distributed from New York, Boston, Jacksonville, and New Orleans, or such other points as may later be agreed upon. From July, 1914, to June, 1915, inclusive, there were 100,585 crates of grapefruit exported from the Isle of Pines, and from July, 1915, to June, 1916, inclusive, there were 95,672 crates exported. The total value of the fruit sent from the Isle of Pines during the season 1914-15, including grapefruit, oranges, lemons, limes, pineapples, king oranges, avocados, mangoes, tangerines, and papayas, was \$255,842, as compared with \$218,716 during the same period of 1915-16. The vegetables exported from the Isle of Pines in 1914-15, consisting of tomatoes, peppers, eggplant, okra, cucumbers, Lima beans, onions, squash, cabbage, and sweet potatoes, were valued at \$27,318, as compared with \$93,900 during the same period of 1915-16.——The Oriental Manganese Mining Co., with a capital of \$20,000, has been organized in Santiago de Cuba to develop the MANGANESE resources of that province. This company also owns La Sabour and Nicana mines near Manzanillo.——According to press reports the PLAZA HOTEL of Habana has a working understanding with the McAlpin Hotel of New York to cooperate by exchanging help and by throwing business to each other. During the summer months the New York hotel proposes to have Habana Spanish and English speaking waiters

for the accommodation of Spanish speaking visitors, and during the winter months the Plaza will have trained hotel men in its service from the McAlpin Hotel.——Word has been received from Habana that the board of directors of the Cuban American Sugar Co. has voted to set aside \$500,000 to be distributed among its employees as a reward for faithful services. The idea of doing this originated with President Menocal, who was formerly president of this company. The bonus which will be received by each employee will depend upon the length of his service.——GOLD ORE is reported to have been discovered at Santa Fe, Isle of Pines. A mining claim has been filed on the property and considerable development work done. Other mining claims have been filed on property in the immediate vicinity.——In 1915 the 32,795 IMMIGRANTS who arrived in Cuba brought with them an average of \$19 each. Of the total number of immigrants referred to 24,501 were Spaniards. The married immigrants numbered 8,905 and the single ones 23,890. There were 2,275 immigrants under 14 years of age, and of the total number 6,319 were female.——A new FERRYBOAT, christened the *Casa Blanca* (White House), began operation on July 13 last between Casa Blanca and Habana.——President Menocal has signed a decree granting a concession to the International Telephone and Telegraph Co., which proposes to establish a public TELEPHONE service between the United States and Cuba. The company will lay submarine cables between the two countries.——Bids have been received by the department of public works for the new facade to be built on the UNIVERSITY OF HABANA, and for the building which will be added to that institution. The construction of the San Lazaro LEPROS HOSPITAL building has been awarded to Augustin Arana at a price not to exceed \$300,000.——The department of sanitation of the Government of Cuba has ordered the installation of BREAD BAKING MACHINERY in all bakeries on the island on or before July 10, 1917.——The Punta Alegre Sugar Co., in the Province of Santa Clara, the Trinidad Sugar Co., and the Florida Sugar Co., all under the same management, expect to produce 300,000 bags of SUGAR this year and 500,000 the coming year.——The Cuban minister in Paris has brought to the attention of the Government the possibility of manufacturing CAOUTCHOUC out of alcohol and molasses, believing that better returns would be obtained for these products if utilized in this manner.——Press reports state that an ice SKATING RINK is to be added to Habana's amusements.——The Cuban Distilling Co. has contracted for construction in Boston of a 500 ton TUG and two large tank barges to be used in their trade between Cuba and the United States.——The Fire department of Habana has ordered from New York six FIRE ENGINES with a capacity of 2,500 gallons of water a minute, a special engine

of 4,000 gallons per minute, two hook and ladder cars, one transport automobile for 20 firemen, two electric reflectors, two motors for chemical engines, and 11,000 feet of hose.

DOMINICAN REPUBLIC

The CABINET appointed by the Provisional President, Dr. Francisco Henríquez y Carvajal, is as follows: J. M. Cabral y Baez, secretary of foreign relations; Francisco J. Peynado, secretary of the treasury and commerce; Emilio Prudhomme, secretary of justice and public instruction; Eliseo Espaillat, secretary of public works and communications; Eladio Sánchez, secretary of agriculture and immigration; Gen. Miguel Mascaró, secretary of war and marine; and Dr. Fed. Henríquez y Carvajal, secretary of interior and police.——The steamship company, entitled “*Empresa Naviera de Cuba*,” proposes to meet the demands for better TRANSPORTATION SERVICE between Cuba, the Dominican Republic, and Haiti by reestablishing the sailings which the Herrera Line formerly made between these countries, and by maintaining, in addition, the service furnished by the regular Cuban line. The steamers *Santiago de Cuba* and *Julián Alonso* are to be utilized in the freight and passenger traffic between the countries mentioned. These steamers will run from Habana to Santiago de Cuba, and from the latter place to the Dominican ports of Santo Domingo, San Pedro de Macoris, Samana, Sanchez, Puerto Plata, Monte Cristi, and Asua de Compostela, proceeding thence to the Haitian ports of Port au Prince, San Marcos, and Gonaïves. One boat will touch the northern and the other the southern coast of both Republics, and will call at Porto Rican ports before returning to Cuba.——According to the “*Listin Diario*,” a daily paper of the City of Santo Domingo, the Clyde Steamship Co. reduced, on July 17, 1916, the FREIGHT RATE ON CAMPECHE shipped from the port of Santo Domingo to the city of New York, to \$15 a ton of 2,240 pounds.——The Dominican magazine, entitled “*Renacimiento*,” published on July 21 last a splendid edition dedicated to the PROVINCE OF AZUA. This special number contains more than 60 engravings made up of photographs, panoramic views of historical sites, etc., and sets forth in a graphic manner the great resources of the Province.——The Government of the Dominican Republic has granted to Rafael Augusto Sánchez and Manuel del Montes authority to work the mine called El Cobre (The Copper), situated in the Commune of San Cristobal, Province of Santo Domingo, covering, with the claims included in the denoucement, an approximate area of 30 caballerias (1 caballeria=75 hectares). This property was denounced on September 9, 1915, before the governor of the Province of Santo Domingo, as a copper mine. A gold placer mine,

situated in the same Province, was also denounced by the aforesaid parties at the same time.—Arrangements have been made to publish a weekly newspaper entitled “La Nación” in the National Capital. Congressman Luis C. del Castillo, and Conrado Sánchez, are manager and editor, respectively.—The BEATA ISLAND, containing an estimated area of 41 square kilometers, lies 3 miles south of the extreme southern part of the Dominican Republic, and about 7 miles to the northeast of the key or barren island known as “Alto Velo.” The island is comparatively flat, the highest elevation being 20 meters (65.6 feet) above the level of the sea, and is said to contain extensive deposits of guano. This island also has two natural salt lakes, one of which covers an area of about one-third of a square kilometer, and the other is about 200 yards long by 150 yards wide. In dry years the salt in these lakes is precipitated two or three times, and produces a considerable quantity. In wet years the production is very slight. The waters surrounding Beata Island are full of fish, one of which, the dolphin, is greatly prized for its skin and fat, the latter producing an excellent oil for lubricating delicate mechanisms, such, for instance, as that of a watch. The manatee seal (*monachus tropicalis*) is also found in the waters near the island, and its thick skin, used in making whips and canes, is of commercial value. Tortoises, turtles, and shells are also abundant but are little exploited commercially. On the land wild goats and hogs are encountered. No streams of potable water exist, but rain-water could be easily collected in cisterns for drinking and other purposes. The island is of limestone formation, and while the soil is, generally speaking, somewhat sterile, a number of valleys contain rich deposits of humus and are fertile.

ECUADOR

According to Velasco, the historian, PETROLEUM was known to exist at Santa Elena, Ecuador, as early as the year 1700. The oil zone of the Republic, as far as the Pacific coast region is concerned, is situated about one hundred kilometers to the southwest of the city of Guayaquil, the principal developments having been carried on upon a strip of land within close proximity to the sea. The climate of this part of Ecuador is one of the most pleasant and salubrious of the Pacific coast of the Republic. The chief oil deposits are near the ocean at San Raimundo and Santa Paola. A thick viscid crude oil oozes from the ground at different places in these districts. At Santa Paola a number of wells have been dug by hand. These have a depth of from 4 (13.1 feet) to 8 meters (26.2 feet), and oil for local consumption is extracted therefrom. When the oil is taken from the wells it is mixed with water, but is separated by a decantation process and placed in barrels containing 150 liters (39.6 gallons), and is transported to the dealers or consumers in this form.—An Executive decree, promulgated on June 13, 1916, prohibits from that date the exportation of Ecuadorean SILVER COIN during the continuance of the European war, and customs administrators are forbidden to issue paper covering exports of this nature. This step was taken to avoid a shortage of silver coin for local use, and especially of the small

denominations which are so essential in carrying on the retail transactions of the country.——The Scientific Commission of the Rockefeller Institute, sent to South America to study the ways and means of stamping out YELLOW FEVER, remained but a few days in Ecuador. The chairman of the commission, Maj. Gen. Wm. C. Gorgas, Surgeon General of the United States Army, together with the other members of the party, made a thorough examination and study of the sanitary condition of Guayaquil, in which work they were ably assisted by the board of health of that city and J. G. White & Co., contractors for the sanitation of the port of Guayaquil. On leaving Ecuador the commission sailed for Callao, Peru. Dr. Becerra, director of the Guayaquil Board of Health, in his parting remarks addressed to the commission of physicians, stated that in Cuba, Panama, Mexico, and Brazil there only remained an unpleasant remembrance of the yellow fever scourge, and that this terrible malady would undoubtedly be similarly eradicated from the other tropical American countries.——The city of Guayaquil has founded a HOSPITAL especially for treatment of members of the police force. The hospital will have five wards, will be modernly equipped and will have an able corps of physicians and attendants.——The municipality of Daule is negotiating a LOAN, the proceeds of which are to be used for installing an electric-light plant and water plugs for the fire department.——The Alvarado MUSEUM, which was awarded two gold medals at the Panama Exposition, has been offered for sale to the municipality of Guayaquil. The collection is made up of ancient native objects, and is said to be an excellent nucleus upon which to build a national public museum in the principal port of the country.——The First National CONGRESS OF CATECHISTS of Ecuador was held in Guayaquil early in June, 1916. The questions discussed at the sessions of the congress related largely to the methods and means which should be adopted for the conversion and civilization of the Indians. Before adjourning, the congress passed a resolution recommending that a second national catechistic congress be held in 1918 in Riobamba, or some other city of the Republic to be selected later.——In January and February, 1916, Great Britain bought Ecuadorean CACAO to the value of £9,849 and £3,819, respectively.

GUATEMALA

A report of the Department of Public Instruction to the Congress of Guatemala, published in the official newspaper of June 2, 1916, states that the President of the Republic, Licentiate Don Manuel Estrada Cabrera, is untiring in his efforts to promote education in the Republic. This report shows that in 1915, the time covered by the same, there were 1,899 primary SCHOOLS in the country, divided into the following classes: 17 kindergartens; 465 mixed schools; 503 elementary schools for boys; 491 elementary schools for girls; 34 complementary schools for boys; 37 complementary schools for girls; 20 training schools for boys; 6 training schools for girls; 62 night schools for workmen; 3 schools of arts and crafts, and 261 rural schools. The matriculates in these schools numbered

65,904 in 1915, as compared with 64,387 in 1914. The training schools for girls are located in the following cities: Guatemala, Quezaltenango, San Marcos, Coban, Totonicapan, and Huehuetenango. The Estrada Cabrera manual training school for males was established in the National Capital on February 1, 1915, with 68 matriculates. The course covers four years. The training school for girls in the city of Guatemala was founded in February, 1915, with 70 pupils in attendance. Instruction is given in this school in dressmaking, millinery, knitting and darning, cooking, embroidering, and the making of underwear, and washing and ironing. Among the special schools operating in the Republic are the following: The National Conservatory of Music, which in 1915 had 90 matriculates, 48 males and 42 females; the Academy of Drawing and Painting with 21 students; the National School of Fine Arts with 69 matriculates; the National School of Commerce with 169 pupils engaged in first, second, third, and fourth year work; the Professional Academy with 122 registered students distributed over the course of four years; the school for female wage earners with 16 pupils; the National Academy of English with 87 matriculates; the Professional Schools of Medicine, Pharmacy, Dentistry, and Midwifery with 118, 19, 11, and 11 pupils, respectively, and the Law and Notary School with 101 matriculates.——T. N. Vail, President of the American Telephone & Telegraph Co., in an interview published in the *Diario de Centro America* (Central American Daily) of the city of Guatemala, declares that the Republic needs WORKMEN with some capital, but not adventurers. In comparing the development of that country with that of the great Northwest of the United States, it is stated that while the Northwest in the early days had no railways, Guatemala is easily accessible both by rail and water, and because of this fact and the richness of the soil and the salubriousness of the climate, offers exceptional advantages in agriculture, stock-raising, mining, and certain kinds of manufacturing.——The WEST INDIAN OILS CO., a corporation organized under the laws of New Jersey, and the Mexican Hardwood Lumber Co., with headquarters at Los Angeles, Cal., have been authorized by the Guatemalan Government to engage in business in the Republic.——Alberto Joachim Varas has been appointed MINISTER of Chile near the Government of Guatemala.——The *Diario de Centro America* publishes figures showing that the FOREIGN DEBT of Guatemala is \$13,700,000, or \$5.20 per capita, one of the smallest foreign debts of any country in the world. The Government has paid one year's interest in advance on the foreign debt contracted in England.——Feliciano Garate has invented a new EVAPORATOR for the production of molasses and sugar. The new apparatus is in use on the Delicias sugar-cane plantation.

HAITI

Le Moniteur, the official newspaper of Haiti, published under date of June 28 the complete text in English and in French of the TREATY celebrated between Haiti and the United States, exchange of ratifica-

tions of which was effected at Washington on May 3, 1916, by representatives of both Governments.——According to *Le Matin* repair and beautification of the **STREETS OF THE FEDERAL CAPITAL** is proceeding most expeditiously and an improved appearance is noted throughout the entire city.——The municipality of Gonaives has undertaken extensive improvements, including the **SANITATION** of the city and the construction of a new market and wharf.——The **EXPENSES** of the Federal administration, fixed by the President of the Republic, amounted in July last to 371,547.57 gourdes national currency and \$29,687.62 American gold.——A **STATUE** of Christopher Columbus by the sculptor Normil Charles will soon be erected on the Rue de Quai, which it is reported will then be renamed Columbus Place.——New York and Chicago capitalists have organized a stock company with a capital of over \$2,000,000 for exploiting **SUGAR PLANTATIONS**, railways, and other important works in Haiti.——The Chamber of Commerce of the Federal capital has established a **MUSEUM** in Port au Prince in which will be exhibited specimens of all the national products.——M. Etienne Mathon has just published the twelfth volume of his **YEARBOOK OF HAITIAN LEGISLATION**. It contains the laws enacted by both the legislative bodies in 1915, as well as the most interesting contracts, decrees, and resolutions of the Government.——A **NEW DAILY** has appeared in Port au Prince entitled "*Le Quotidien*" under the management of Mons. Christian Regulus.——On July 11 last the President of the Republic issued a decree providing for the establishment of a **MANUAL TRAINING SCHOOL** to be operated in conjunction with the special secondary school for boys of Port au Prince. The school will be thoroughly equipped and instruction given in all the manual arts and trades in courses extending from one to two years. Students between 14 and 18 years of age will be admitted to any of the courses, but those over 18 are required to secure special permission from the department of education.——A new **TELEGRAPH STATION** has just been established in the town of Petite Riviere de Nippes and it is reported that the director of telegraphs proposes to make further extensions of telegraph lines throughout the country and other improvements in the service.——On August 1, 1916, the water service department put into effect a **NEW SCHEDULE** regulating water rates in the capital city.——The central amortization board, acting in accordance with the laws of the country, incinerated on July 2 **BANK BILLS** of the denominations of 1 and 2 gourdes, amounting to 88,000 gourdes, and on July 24 remainders of the 1914 issue of postage stamps were incinerated in accordance with a special decree.——On July 1 the summer schedule of **OFFICE HOURS** in the administrative departments went into effect, fixing the working hours from 10 a. m. to 4 p. m.——According to *Le Matin* work has begun on the Port au Prince-Leogane-Jacmel and Port au Prince-Marne to Cabri-Las Caobas **PUBLIC HIGHWAYS**, on which a large force of laborers are employed.——According to *Le Nouvelliste* of July 12, in accordance with the convention between Haiti and the United States the President of Haiti has appointed, upon nomination by the President of the United States, the following public officials: Mr. Momus, general receiver; Mr. G. Oberlin, engineer of public works; Mr. Addison T. Ruan, financial adviser.

HONDURAS

Dr. Mariano Vásquez, secretary of foreign relations of the Government of Honduras, has arranged to have on exhibition in the offices of the consul-general of that country in New Orleans, La., a special **DISPLAY OF HONDURAN PRODUCTS**. The exhibit is composed of a select assortment of the principal products of the Republic—agricultural, forestal, stock, and mineral. The collection of minerals, and especially of gold bearing quartz and other ores containing the precious metals, as well as the samples of lead, copper, and iron ores, are very interesting and serve as an excellent propaganda in making known the mineral resources of the country. The installation of this exhibit on the part of the Government of Honduras is a practical step toward encouraging trade, and will doubtless result in the investment of American capital in that country as well as an increase in the commerce between the two nations.——The *Gaceta Oficial* (Official Gazette) of June 22, 1916, contains the full Spanish text of the law recently enacted by the National Congress requiring male citizens, both nationals and foreigners domiciled in the Republic, over 18 years of age, unless specifically exempted, to contribute money or labor toward the construction of the **PUBLIC HIGHWAYS** of the country. A tax for this purpose is also imposed upon commercial, industrial, mining, and banking houses and their agencies doing business in Honduras but having their legal residences in other countries. Women who have property amounting to less than 5,000 pesos (silver peso = \$0.3537), and physically incapacitated and indigent men over 60 years of age are exempted from the provisions of the law. The tax is levied on a sliding scale according to the wealth of the individuals, the values ranging in amounts of from 5,000 to 100,000 pesos.——The first plant to be installed in Honduras for the production of **STEAM DRIED COPRA** from coast-grown coconuts will soon be completed and put in operation in the city of Cortes.——The Government of Honduras has granted a concession to Florián Davadi authorizing the establishment of **MATCH, SOAP, AND CANDLE FACTORIES** at Tela, Department of Atlantida. The machinery for the equipment of these factories, which it is proposed to buy in the United States, will be permitted to enter the Republic free of duty, together with such accessories and materials as may be needed for the installation and operation of the factories if consigned in one shipment. The concession has the approval of Congress, and may be, with the consent of the Government, transferred to third parties.——It is estimated that there are in the Mosquitia Territory 90,000,000 **PINE TREES**, more than 45,000,000 cedar and mahogany trees, and about 14,000,000 trees of miscellaneous woods. Valuing the pine trees at 25 cents American gold each, or \$22,500,000, the cedar and mahogany trees at \$5 each, or \$225,000,000, and the miscellaneous trees at 10 cents each, or \$1,400,000, makes the value of the trees mentioned, as they stand in the Honduran forests of this territory, \$248,900,000. The Mosquitia Territory has an area of about 9,000 square miles, and with the exception of the department of Olancha, which has an area of 12,000 square miles, is the largest political division of the Republic. The population of this

territory is approximately 5,000. Generally speaking the land is low and level, and is traversed by the Negro, the Patuca, and the Coco Rivers which are navigable by light-draft vessels for many miles into the interior. — The city of La Paz, Honduras, situated in the beautiful Comaygua Valley, has arranged for the installation of WATERWORKS, and it is expected that before the end of the present year that prosperous municipality will have an abundant supply of potable water. The estimated cost of the waterworks is 50,000 pesos (peso = \$0.3537).



El Dia, a daily newspaper of Monterey, State of Nuevo Leon, is authority for the statement that a company of English capitalists with available funds of several hundred thousand pounds sterling has been organized in London to work the Mercado Hill IRON ORE DEPOSITS in the city of Durango. This iron hill is one of the richest and most extensive deposits of iron ore in the world, and has heretofore been largely used for fluxing purposes in the principal smelters of the Republic. The company is reported to be negotiating with the Mexican Government concerning the granting of the necessary concession, and plans have been made for excavation work, the erection of smelters, and the installation of such machinery as may be required to refine the ores on a large scale. The company has placed Eduardo Bracho, a practical mining engineer and metallurgist, in charge of the works contemplated, and this gentleman has contracted for a number of laborers to be employed in the development and exploitation of the mine. — It is estimated that in 1915 the output of MANUFACTURED ASPHALT from Mexican petroleum was as follows: Road asphalt and flux, 174,854 tons, valued at \$1,325,201, and residual pitch, a substance used chiefly for paving, 213,464 tons, valued at \$2,405,235, or a total tonnage of 388,318, valued at \$3,730,436. — The Times Annalist of New York publishes a table showing that FOREIGN INVESTMENTS in Mexico amount to \$1,641,054,180, made up of the following items: American capital, \$1,057,770,000; English, \$321,302,800; French, \$143,446,000, and various, \$118,535,380. In addition to this amount the Mexican investments in the same enterprises are estimated at \$793,237,242, making the total foreign and Mexican investments in the industries of the country, \$2,431,291,422. The largest amounts of American money are invested as follows: In railway shares and bonds, \$644,390,000; mines, \$223,000,000; domestic bonds, \$52,000,000; smelters, \$26,500,000; bank deposits, \$22,700,000; oil and rubber, \$15,000,000 each, and factories, \$9,600,000. The English have \$168,917,800 invested in shares and railway bonds; \$67,000,000 in domestic bonds; \$43,600,000 in bank deposits, and \$10,300,000 in woodlands. — The WIRELESS telegraph station at Chapultepec in the suburbs of the City of Mexico has had its tower elevated so as to be able to receive and transmit messages within a radius of 2,500 kilometers (1,553 miles). — Extensive deposits of MAGNESITE, a valuable material used in the manufacture of cement, have been discovered on Cedar Island in the northern district of Lower Cali-

fornia. Licentiate Luis Cacho is negotiating with the Mexican Government for a concession to work some of these deposits. Governor Cantu is encouraging the formation of Mexican settlements in the vicinity of the magnesite mines. Recently 220 families came from the southern part of Lower California into this section, and these were followed later by 116 families, and it is hoped to give employment to all who are fit to labor in the mines.——The Mexican Government has arranged to pay to the 24 PHILANTHROPIC INSTITUTIONS of the Federal District 1,000,000 pesos per month to be used for operating expenses, salaries, etc. At the present time these institutions contain nearly 9,000 patients, and have in their employ over 2,000 persons.——During the 10 months prior to August, 1916, 1,500 DESKS have been distributed to the public schools of the State of Coahuila, and other shipments have been ordered for the use of the schools of that commonwealth. A large number of chairs for kindergarten schools have also been contracted for. This school furniture is made in Monterey, Mexico, and is of good quality and nicely finished.——BANK NOTES of the denominations of one and two pesos were put in circulation by the Provisional Government in July last.——Salvador Martínez Alomía has been appointed MINISTER of the Government of Mexico to the Central American Republics.——Telegraphic information from the State of Sonora is to the effect that most of the North American MINING companies operating in that Commonwealth have renewed their labors, and are employing large numbers of Mexican miners in working and developing their mines.

NICARAGUA

The secretary of the treasury of the Government of Nicaragua has requested the Chamber of Deputies of the National Congress to sanction the appointment of a committee in each importing center of the Republic to study and report on a plan upon which to base the compilation of a NEW CUSTOMS TARIFF. The intention is for these committees to investigate and consult importing merchants, commission men, traders, and others interested in tariff revision, and submit their findings to the Chamber of Deputies during the present session. Acting on this suggestion, four groups of members have been appointed with headquarters, respectively, in Managua, Granada, Leon, and Bluefields. The revision of the tariff involves the question of adequate Government revenues, and is, on account of conflicting interests, a difficult one to solve to the satisfaction of all the parties in interest. It is contended by a considerable number of well informed Nicaraguans that the lowering of the duties on merchandise which now obtain, at least on the Atlantic coast, would augment the revenues of the Government, due, it is claimed, to increased importations which would result.——The Bluefields American states that it is reported from Cape Gracias that a company has been formed for the active exploitation of the SPONGE INDUSTRY in the vicinity of the reefs and shoals of the coast. A number of Atlantic coast business men are interested in this enterprise. The result obtained from fishing on the cays and coral banks

has been so satisfactory by the old time "tonging" method that it is predicted that a company properly equipped for engaging in this industry will meet with great success.—The Nicaragua Commercial Logging Co. is utilizing the "Veloz," a rapid gasoline launch, in a weekly MAIL AND PASSENGER SERVICE to the Pis-pis and Ocuaguas mining districts. By employing this vessel the journey from Prinsapolka to Tunky can be made in less than 24 hours, and the return trip in about 14 hours. Passengers from Bluefields, via this route, can reach the Pis-Pis mining district in about 60 hours. The boat has a capacity for 10 passengers, and the state-rooms, though small, are comfortable. The fare from Prinsapolka to Tunky, a distance of about 240 miles, is \$20, and from Tunky to Prinsapolka, \$10, but passengers are required to furnish their provisions and bedding for the trip.—A. G. Spalding & Bros., BASEBALL and sporting goods dealers and manufacturers of Philadelphia, Pa., have offered gold medals to the members of the baseball club winning the championship of the National League of Nicaragua in 1916.—The Santa Rosa DISTILLERY of Bluefields, established by Esteban Sandino, and which does a large business in Nicaragua, especially in the Atlantic coast section of the Republic, has been reorganized and formed into a stock company with a working capital of \$15,000. The plant, which will continue under the direction of Sr. Sandino, is to be enlarged, modernized, and equipped with the most up-to-date machinery. Heretofore the distillery has been unable to fully supply the demands for its products, and, consequently, an enlargement of its capacity was made necessary.—Cornelius Ferris, jr., the popular and efficient American CONSUL who has been stationed at Bluefields for the past two years, has been transferred to Mannheim, Germany, one of the most beautiful cities of the valley of the Rhine and a thriving industrial and coal mining center. Mr. Ferris was formerly consul at Asuncion, Paraguay, and Port Antonio, Jamaica.

PANAMA

The municipality of Almirante is having WATERWORKS constructed for the purpose of furnishing the town with an abundant supply of potable water. The original contract for this work was given to the United Fruit Co., which in turn sublet it. Fruitdale Creek, at a point about 6 miles from Almirante, was selected as the best source for obtaining the water supply. A number of surveys were made, and it was decided to build a dam across the creek between two hills, thus forming an artificial watershed and deposit, from which the water will flow by gravity through pipes to tanks in Almirante located about 100 feet above the level of the town. The dam has been under construction for approximately a year, and when completed, together with the pipe line and two reservoirs, will represent an outlay of \$200,000. It is estimated that the dam will hold 5,000,000 gallons of water, and that after the gates are closed it will take a month to fill the deposit. Before reaching the distribution tanks the water will pass through a settling tank situated 250 feet higher than the town

of Almirante. It is calculated that the distribution reservoir on the hill back of Almirante will be large enough to supply 12,000 people with 100 gallons of water each per day, which quantity can be increased at any time by adding additional tanks. Water mains 8, 6, and 4 inches in diameter will be laid in the streets, and connections of three-fourths-inch pipe will be made with the houses.——The POPULATION OF THE CANAL ZONE, as shown in a house-to-house canvass made by the police and fire department of the Panama Canal, is 31,048, of which number 14,876 are American. The total includes all the employees of the Panama Canal, members of military organizations, and women and children residing in the Canal Zone. The soldiers in the Canal Zone number 7,451 men, and the civilians employed by the Canal 11,742, of whom 3,598 are Americans, and 8,144 of other nationalities. The number of women in the Zone is 5,321, of whom 1,886 are Americans.——On page 701 of the English edition of the May, 1915, Bulletin, a statement, republished from the *Diario de Panama* of April 30, 1915, was made that the strip of land known as the CANAL ZONE would in future be called Panama Canal. This is in error, since the Panama Canal act of August 24, 1912, provides that “the zone of land and land under water of the width of 10 miles extending to the distance of 5 miles on each side of the center line of the route of the canal * * * shall be known and designated as the Canal Zone * * *.”——The joint land commission has awarded to John J. Gibbons, of New York, \$26,000 in payment of 1,286.97 hectares (3,180 acres) of LAND, known as Guayabal, situated in the Pedro Miguel-Miraflores district of the Canal Zone, or at a price of nearly \$200 per hectare (2.471 acres).——According to the *Star* and *Herald* of the City of Panama, a fraud order has been issued against the COLONIZATION SCHEME organized under the name of the Isthmian Land & Development Co. (Inc.), commonly known as the Gatun Lake Colony. It is alleged that from \$8,000 to \$9,000 has been sunk in the undertaking, for which no proper accounting has been rendered. The colony was composed of about 50 members, most of whom in August last had abandoned the locality, some returning to the United States, others obtaining employment elsewhere, and some becoming stranded at Gatun.——There has been added to the BUDGET at present in force an item of \$192,306, which sum is to be used throughout the Republic in the care and repair of bridges and roads and in the conservation of Government buildings, with the exception of school buildings, which are specifically exempted.——The Government of Panama has exempted from the payment of duty, subject to the approval of Congress, the machinery and accessories imported by the Panama & Colon Gas Co. for the installation of their GAS plants in the cities of Colon and Panama.

PARAGUAY

Manuel Gondra, representing the Government of Paraguay, and Mario Ruíz de los Llanos that of the Argentine Republic, concluded in the city of Asuncion on July 8, 1916, a TREATY OF COMMERCE between the Republics of Paraguay and Argentina providing for free

entry into their respective territories of natural and manufactured products proceeding from the countries in interest. The treaty is for a term of 10 years and will be extended for another period of 10 years if neither of the contracting parties give written notification to the other at least 1 year prior to the date of the expiration of the treaty of its desire to terminate same. The treaty specifies that during the first 5 years of its existence the following articles shipped from one country to the other will be subject to the payment of the regular import duties: Sugar, matches, candles, boots and shoes, saddlery, furniture, and ready-made clothing. At the expiration of the 5 years, if no agreement has been made to the contrary, the articles referred to will then enter the respective countries without the payment of duties. Both Republics agree to permit free transit through their ports and across their territories of merchandise or raw material consigned from a foreign country to either of the Republics. Should either of the countries to this treaty make a more liberal commercial convention with any other nation, then the terms of same become applicable to and binding on the Governments of Paraguay and Argentina. —In 1900 the production of TOBACCO in Paraguay consisted of 2,995,801 kilos (kilo=2.2046 pounds); in 1905, 3,627,327; in 1910, 5,117,832; and in 1915, 7,125,277 kilos. —The Tobati KAOLIN deposits at Aparipy are to be worked by a company having a capital of 6,000,000 Argentine pesos (Argentine gold peso=\$0.9648). These deposits, which were recently inspected by Dr. Beder, a geologist of Buenos Aires, are estimated to contain about 6,000,000 meters of kaolin. According to press reports the output has been contracted for in advance to meet the demands of the Argentine markets. Other deposits of similar material are located at Aregua, and these are also to be exploited. —The President has promulgated decrees extending the general BUDGET until August 15, 1916, and providing that, on and after July 1 of the present year, CUSTOMS DUTIES, except the duties on hides, shall be paid in paper money at the current rate of exchange established by the Government exchange office in Asuncion. —The Liberal Democratic Party of Paraguay has commenced the publication of a daily NEWSPAPER in Asuncion entitled "El Nacional" (The National) under the direction of Dr. Eusebio Tafoada. —According to statistics prepared by Dr. Cecilio Baez, a noted Paraguayan writer and statesman, the Republic of Paraguay is one of the nations having one of the smallest FOREIGN DEBTS in the world, amounting, in round numbers, to 3,000,000 Argentine pesos (\$2,894,400). According to the same authority the annual production of yerba mate, or Paraguayan tea, is 20,000,000 kilos (kilo=2.2046 pounds), the number of cattle 4,000,000 head, and 300,000 hides are exported annually. —President Manuel Franco and Vice President José P. Montero were inaugurated in Asuncion on August 15, 1916. —Of the approximately 200,000 quebracho or ironwood TIES received annually by the Quebracho Export Co. of New York from South America, about three-fourths come from the Upper Paraguay River. —The Agricultural Bank at Asuncion has received a large shipment of Irish seed POTATOTES for distribution to farmers. The best months for planting this tuber in Paraguay are March and August. —José Fasardi is president of a company recently organized in Asuncion with a capital of \$250,000

gold for the establishment of a **PACKING HOUSE** in Paraguay. The packing house at San Salvador, the owners of which reside in Germany, has temporarily suspended operations.——The Paraguay **GYMNASIUM** at Asuncion has reelected Dr. Justo P. Vera president and Alberto Mendez secretary.——Dr. Bruno P. Guggiari has been chosen president of the Paraguay **FOOTBALL** association, with headquarters in Asuncion.——The **COMMERCE WITH SPAIN**, which amounted to 249,858 gold pesos (gold peso = \$0.9648) in 1905, increased to 693,268 pesos in 1910, and fell to 182,727 pesos in 1915.

PERÚ

The Peruvian Government has appointed experts on wheat culture to encourage agriculturists to increase their acreage in this cereal, and an active propaganda is being made for raising enough **WHEAT** for home consumption, as heretofore about 40,000 tons have been imported annually. Basing calculations on the general average in wheat producing countries of 1,260 kilos per hectare, it will require an increased area of 40,500 hectares sown to wheat to produce enough to supply the country's wants and as there are many favored wheat producing zones in the Republic, the deficiency will soon be overcome.——The Backus & Johnston Brewery Co., who have one of the largest plants in Latin America, have started borings for the first **ARTESIAN WELL** in Lima to supply a greater volume of pure water needed on account of the constantly increasing output of their factory. They expect to find water in sufficient quantities at a maximum depth of 1,500 feet.——Dr. Felipe de Osma has been appointed **MINISTER PLENIPOTENTIARY** of the Peruvian Government near the Government of Bolivia.——The President has appointed a special commission to supervise the distribution of the water for the **IRRIGATION** of the Rimac Valley and to regulate the amount of water allotted to the many agricultural districts supplied from the Rimac River.——On the recommendation of the special commission recently appointed to propose measures for securing articles of prime necessity at reasonable prices, the President has issued a decree prohibiting for the present the **EXPORTATION OF RICE** produced in the national territory.——La Prensa, of Lima, publishes an interesting report by an expert on Peru's **COAL DEPOSITS**. The report shows that due to her increasing industrial activity, Peru is now consuming 450,000 tons of coal per year, 150,000 tons of which are imported at a cost of £300,000. The expert believes that the Government could exploit one of its own deposits and substitute its own coal for that imported, at much less cost. He estimates that with an investment of £500,000, the Government could produce 500 tons per day or 150,000 tons per year, and after the initial cost during the first year, the expenses would be comparatively small.——The President of the Republic issued on July 1, 1916, an important **SANITARY DECREE** requiring reports to be made to the board of health by practicing physicians as soon as it is known or suspected that any contagious disease exists anywhere within the country, and requiring the necessary measures to be taken for the

extermination of the same.—The department of education is shortly to publish an **ILLUSTRATED MONTHLY REVIEW** entitled "La Mujer Peruana." The publication will have a monthly issue of 1,500 copies, 16 pages to the number, and will be distributed gratis among all schools in the Republic for female education. Its subject matter will treat principally of the problems of present day practical instruction for women.—The director of the **HISTORICAL MUSEUM** is having a 400-page catalogue printed giving complete lists of Inca relics, coins, medals, historic documents, etc., that are on exhibit in the museum.—According to the *Revista Tecnica Ferroviaria*, the Central Railway of Peru is considered the **HIGHEST RAILWAY IN THE WORLD**, and crosses the Andes through the Galera Tunnel at a height of 15,655 feet.—A Peruvian steamer has recently made the long combined river and ocean trip from Iquitos to Callao, via the Panama Canal, a distance of 8,000 miles, making almost a complete circle. The distance by land from Iquitos to Callao is about 1,000 miles.—An executive decree has opened to public service the first 14 kilometers of the **HUANCAYO-AYACUCHO RAILWAY**, which have recently been completed.—The **COMMERCIAL MUSEUM** of Lima has collected data relative to agricultural, mining, irrigation projects, rubber lands, and other enterprises in Peru in the exploitation of which foreign capital may seek investment.

SALVADOR

On June 19, 1916, Congress passed a law imposing a general **TAX ON INCOMES**. The law prescribes that all persons who have incomes over 2,000 pesos (peso=\$0.3537) are subject to the tax. The tax is payable in two installments, January 1–February 28 and July 1–August 31 of each year, at the legal domicile of the persons subject thereto. The incomes subject to the tax are as follows: Incomes from 2,000 to 3,000 pesos, 2 per cent; from 3,001 to 4,000 pesos, 2½ per cent; from 4,001 to 10,000 pesos, an additional one-half per cent on every 1,000 pesos; and from 10,001 pesos and over, 6 per cent.—According to a recent Executive decree the road from the town of Santo Tomas to the town of Panchimalco is made a **NATIONAL HIGHWAY** and is opened to public traffic.—A special water board has been created by the President for improving the **WATER SERVICE** of the city of Sensuntepeque.—Miss Maria Luz Reyes, a native of Salvador, graduated last June with the highest honors in the commercial course of St. Elizabeth's Academy, which is situated near New York City.—The President has approved the plans and regulations submitted by the committee on construction for rebuilding the **MUNICIPAL PALACE** at Usulután.—El Diario del Salvador, in its July number, published an interesting continued article on the **CULTIVATION OF WHEAT** in Salvador, showing that there are large areas in the different departments admirably adapted to the growing of wheat, producing grain of good quality and abundant yield as already proven by tests. The value of the imports of wheat into Salvador amounts annually

to about 1,500,000 pesos and it is hoped by giving special attention to increased cultivation and by facilitating and encouraging agriculturists in their efforts to raise it the Republic may grow a sufficient quantity to supply all its wants.——The number of foreign vessels clearing from the ports of Salvador increased from 347 in 1914 to 454 in 1915.——In view of the increasing popularity of AUTOMOBILES in Salvador it is proposed to widen the Ahuachapan-Amapala national highway for automobile touring.——On August 1 a company entitled "La Cosmopolita" was organized in San Salvador for erecting HOUSES on the installment plan, the monthly payments by purchasers to exceed by very little the actual cost of renting.——On July 16 the new WATERWORKS were inaugurated in the town of Moncagua, at a cost of 21,740 pesos. The works can supply 80,000 liters every 24 hours by hydraulic power. Electric lighting is being installed in the towns of Gotera and San Vicente.——The firm of J. Alex. March & Co. have bought a site in San Salvador for the erection of a PAPER FACTORY and work on its construction is to begin at once. The factory is to use only native raw materials in manufacturing its products.——The municipal authorities of Santa Ana have requested Executive authority for contracting a loan of 60,000 pesos, to be used in installing furnaces for INCINERATING REFUSE of the city.——"Escobilla," a common plant in Salvador, promises to become an important product for export, as the Department of Agriculture of Salvador by recent tests has found it suitable for the manufacture of paper and coarse bags for exporting fruit, etc.

URUGUAY

On July 20, 1916, the President of the Republic transmitted a MESSAGE to the National Congress, convened in extra session, recommending the consideration of the following bills: Reorganization of public charitable institutions; municipal budget of Montevideo; homage to José Martí, the Cuban patriot; general municipal tax laws; labor holiday; municipal laundries; containing wall Salto River; extension of time for recording deeds; agricultural mortgages; construction of baths for killing ticks on stock; branding of cattle, and an enlargement of the manufacturing section of the Institute of Industrial Chemistry.——Because of the lack of storage facilities in the port of Montevideo and a shortage of vessels engaged in European traffic, one of the large export houses of the National Capital, which, in 1915, exported about one-third of the wool produced in the country, recently chartered the Uruguayan steamship *Artigas* to transport cattle hides and SHEEPSKINS to France.——Congress has authorized the Republic of Uruguay to contract LOANS with the Bank of the Republic for a period of five years, and has empowered police and district officials to negotiate loans with the same bank for terms of two years, provided the President of the Republic sanctions the transactions. The bank is restricted to an investment for this purpose of not over 300,000 pesos (Uruguayan peso = \$1.0342).——A bill has been introduced into the National

Congress instructing the Uruguayan Government to invite the Republics of the Western Hemisphere to participate in a congress to be held in Montevideo some time in 1917 for the purpose of studying and drafting the bases of a charter of an organization to be known as the INTERNATIONAL AMERICAN CONFEDERATION, the object of which is to form a coalition, in accordance with the suggestions of the President of the United States, for the preservation of peace.——Recently there has been an insufficient quantity of fence wire or netting on hand in the Republic to meet the demands of the Uruguayan trade, and consequently prices have advanced about 50 per cent over the prices ruling at the beginning of the European war. Formerly most of this netted wire came from Germany. It is now being imported from the United States and England.——The National Patriotic Association of Uruguay with headquarters in Montevideo, inaugurated in the Federal Capital on August 25, 1916, anniversary of Uruguayan independence, a NATIONAL PATRIOTIC CONGRESS, which was in session three days. During the meetings of the Congress patriotic questions of great public interest were considered. A full report of the proceedings of the Congress was not available at the time of going to press.——The House of Deputies has approved the amendments to the ELECTORAL LAW, the bill for nationalizing port services, the measure expropriating the sewers of Montevideo, and the bill making a national holiday of Labor Day, May 1.——Two NORTH AMERICAN STEAMERS, the *Hawaii* and the *Panamá*, recently arrived at the port of Montevideo laden with North American merchandise.——A bill, supported by the administration, has been introduced into Congress prescribing that domestic and FOREIGN COMPANIES, or their agencies, doing business in Uruguay, shall be subject to control and inspection by duly authorized officials of the Government.——The STAMP TAX on perfumery and toilet articles became effective in June last, from which time no articles subject to the tax could be lawfully sold without being properly stamped.——Dr. Claudio Wilman, recently appointed president of the BANK OF THE REPUBLIC, has resigned his post as rector of the University of Uruguay. Dr. Emilio Barbaroux has been appointed to the place made vacant by the resignation of Dr. Wilman.——According to investigations made by Father Sanguinetti, of Merced Church, the REMAINS OF BRUNO MAURICIO DE ZABALA, Captain General of the Provinces of the River Plate, founder of the city of Montevideo and one of the most noted men of Colonial times, now rest in the cathedral in the city of Buenos Aires.——An executive decree of June 12, 1916, approves the proceedings of the FIRST CONSULAR CONGRESS held in Montevideo and the consular fees recommended by that body.

VENEZUELA

The BUDGET of the Government of Venezuela for the fiscal year July 1, 1916, to June 30, 1917, inclusive, estimates the national revenues at 44,180,000 bolívars (\$8,526,740) made up of the following

receipts expressed in bolívares (1 bolívar=\$0.193): From imports, 10,700,000; reserve funds of the Treasury, 5,960,000; the salt monopoly and the tax on cigarettes, 5,500,000 bolívares each; tax on liquors, 4,000,000; stamps, 3,000,000; 30 per cent tax, 3,210,000; 12½ per cent of the national and of the territorial tax, 2,675,000 bolívares; and other receipts, 3,635,000 bolívares. These revenues are to be expended as follows: Interior Department, 9,236,642.50 bolívares; Department of Foreign Relations, 1,129,245; Treasury Department, 14,930,175.32; Department of War and Marine, 9,640,345.72; Department of Fomento (encouragement), 3,036,490; Department of Public Works, 3,175,400; Department of Public Instruction, 2,599,563; and corrections to the budget, 432,138.46 bolívares.——On June 20 last, Gen. Oscar R. Benavides, Ex-President of the Republic of Peru, made a short visit to the city of Caracas. After visiting a number of the principal attractions of the National Capital, including the National Pantheon, where the remains of Simon Bolívar, the liberator, rest in the mausoleum erected for that purpose, the Paraíso Avenue, and other points of interest, the distinguished guest called at the Department of Foreign Relations and visited Miraflores Palace to pay his respects to Dr. V. Márquez Bustillos, Provisional President of the Republic.——The SCHOOL OF ARTS AND CRAFTS of Caracas, under the direction of Dr. Vicente Lecuna, has proved itself to be one of the most useful educational establishments of the Republic. It was this school and its able director, in cooperation with Dr. Luis Munoz Tebar, that prepared and engraved a map of the United States of Venezuela, lithographing same in the shops of the National School of Arts and Crafts and turning out a completed work that would do credit to the lithographers of the United States and Europe. The same school is now preparing on a large scale an atlas of the entire Republic and has in press the part showing the State of Zulia.——The 5 per cent annual guarantee on the capital of the Puerto Cabello to Valencia RAILWAY, made by the Government of Venezuela on May 26, 1901, was cancelled by a new agreement published in the *Diario Oficial* (Official Daily) of June 8, 1916, under which Venezuela agrees to pay the railway company £190,000. The new agreement obligates the company to carry Government freight and passengers at 25 per cent less than the maximum tariff rates.——The Government of Venezuela has granted a monthly subvention of 240 bolívares (1 bolívar=\$0.193) to the Simón Bolívar SCHOOL OF POLITICAL SCIENCE, founded in the city of San Cristobal, capital of the State of Tachira, by Drs. Antonio Rómulo Costa and Rafael González Uzcátegui.——A shipment of 10 SUGAR TANKS or vats, weighing 3 tons each, was recently made from Habana, Cuba, via Colon, Panama, to La Guaira, Venezuela, for use of a sugar central in the vicinity of Maracaibo. A previous shipment of 47 tons of sugar machinery went forward from Habana to the same destination and consignee shortly before the shipment referred to.——Dr. M. Diaz Rodríguez has been appointed SECRETARY OF FOMENTO of the Government of Venezuela to take the place of Dr. Santiago Fontiveros, resigned.



OCTOBER • • • • • 1916

BULLETIN OF THE PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÄNES, ASSISTANT DIRECTOR.



BARRIOS PARK, SAN SALVADOR, EL SALVADOR.

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¹Absent.





Photo by Harris-Ewing.

SEÑOR GENERAL EMILIANO CHAMORRO,

Elected President of Nicaragua October 2, 1916, and to be inaugurated January 1, 1917, for a term of six years.



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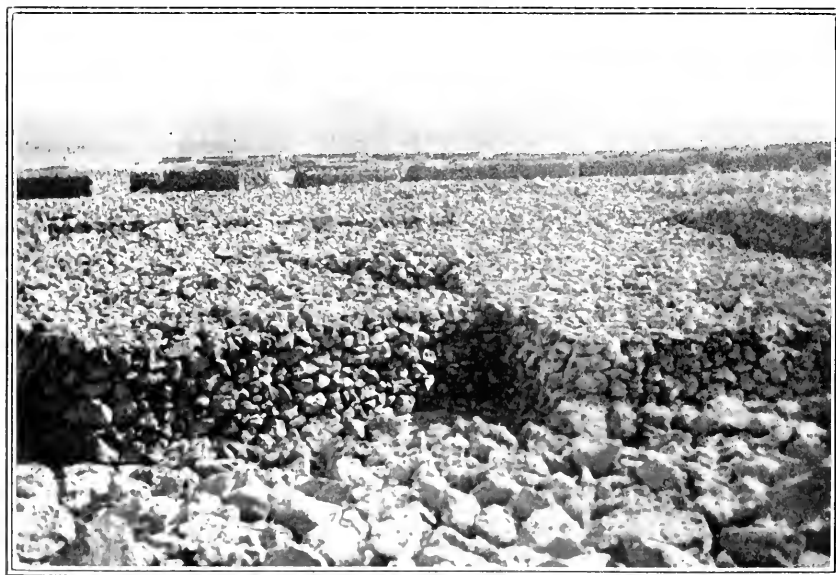
SOUTH AMERICA AND THE TOURIST: WEST COAST¹

AFTER a pleasant sojourn in the Chilean capital the tourist, in accordance with his itinerary, turns his course northward and homeward. In so doing he should bear in mind these facts: The eastern countries of the Continent have received from early days a stream of European immigration, which has greatly aided their commercial and industrial advancement. The countries of western South America have not to any great extent enjoyed the influx of new peoples; neither has European capital responded so freely to their call for financial aid in upbuilding.

It should also be remembered that from Magellan to Panama stretches the world's greatest commerce-defying mountain system. Constructing railways and highways within this zone has been the patient toil of years rather than the work of months. Truly, the east coast and the west coast offer wonderful contrasts. Nature evidently designed the former for the man who tills the soil and rears the flock; the latter for those who would delve into the kingdom of minerals. To enjoy our tour to the fullest let us take things as they are; not condemn for lack of progress but, if possible, bestow a word of praise for difficulties surmounted — for ends attained.

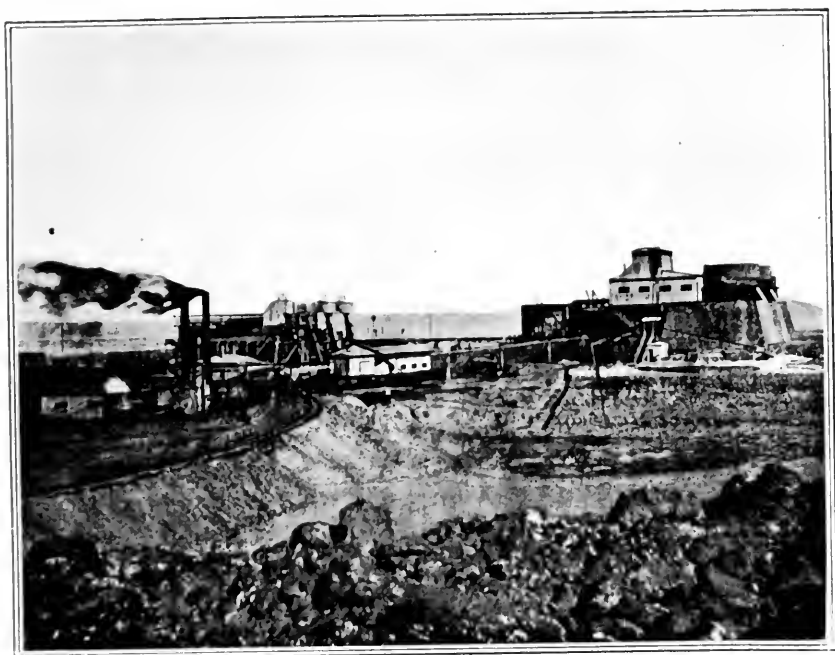
We are to pass over vast areas where rain never falls; to visit towns and villages that have been building for a hundred years and more, but are not modern; and in some cases we shall see the decaying marks of peoples who builded marvelously — a challenge to the most skilled constructor of to-day; all in all, the remainder of our tour will be quite as interesting as the beginning, but of an entirely different nature as regards sightseeing and development.

¹ By William A. Reid, Pan American Union Staff.



VIEWS IN THE CHILEAN NITRATE REGION.

Upper: Explosion in the nitrate bed a few feet below the surface throws the caliche or crude product in a form easily handled by laborers. Lower: The caliche after workmen have piled it up ready to be placed on small cars which transport it to the "oficina" or plant.



BUSINESS ACTIVITY IN THE NITRATE FIELDS

Upper: General view of a nitrate plant or "oficina," and machinery used in treating the raw product. Lower: A nitrate train being loaded for dispatch to the coast for shipment to foreign countries.

Planning to leave Santiago for Valparaiso by a morning train, we secure Pullman chair seats a day in advance, and passing down the Alameda in automobile or coach, bid farewell to the Chilean capital. The distance to Valparaiso is 115 miles; fare, 12.80 pesos, with 4 pesos extra for Pullman seat (about \$3.35); the time is from 3½ to 4 hours. Probably the most interesting little station along the way is Llai Llai, which has about 3,000 people, and is a junction of the railroad from southern Chile with the trans-Andine. Roads in this section are standard gauge, and first-class service is maintained. At Llai Llai many native women and children offer delicious fruits and other foods to the traveler; the fruit is often very fine, but on account of being exposed to dust should be eaten only after thorough cleansing.

The next railroad junction is Calera, where the "Chilean longitudinal" continues its course northward. The tourist could travel hundreds of miles north through the Chilean mining region by this railroad, but at present fast trains suitable for the tourist are not operated. As a rule ships are faster and more comfortable; one could, however, travel slowly by rail and finally enter Bolivia without even seeing the ocean.

Shortly before arriving in Valparaiso the train halts at Viña del Mar, Chile's great seaside resort. It is considered best to continue to Valparaiso, settle one's self in a hotel, and return by trolley to the resort.

Valparaiso (Vale of Paradise) has 200,000 population; the place was named by its founder, Saavedra, after his native village in Spain. Like Naples, Gibraltar, Hongkong, Nagasaki, and many other great ports of the world, there is an upper and a lower city; and these are connected by several public elevators and by winding streets. Earthquakes have from time to time wrought destruction, but each time the city rises in more modern form. It is built around a semicircular bay, opening to the north, and occasionally heavy swells or "norther's" sweep in from the sea and cause damage to harbor shipping. Millions of dollars are being spent in constructing breakwaters in order to make the harbor safer at all seasons.

Places of interest are the naval school on the heights, from which there is an excellent view over the harbor; private residences, many of which overhang the lower city; Government Palace; the water front, which offers opportunities for those interested in the movement of commerce; new naval docks. A day may be profitably spent in wandering or motoring about Vina del Mar visiting the casinos, clubs, bathing beaches, hotels, or viewing the residences of people of wealth and refinement. The profusion of flowers is another attraction of this resort which will be doubly pleasing if the visitor arrives in the summer season (our winter). There are always guests



ILLIMANI, ONE OF THE MOST BEAUTIFUL PEAKS OF THE ANDES.

Long before the traveler reaches the Bolivian capital beautiful snow-capped peaks may be seen in the distance. Illimani dominates La Paz and many miles of surrounding country.

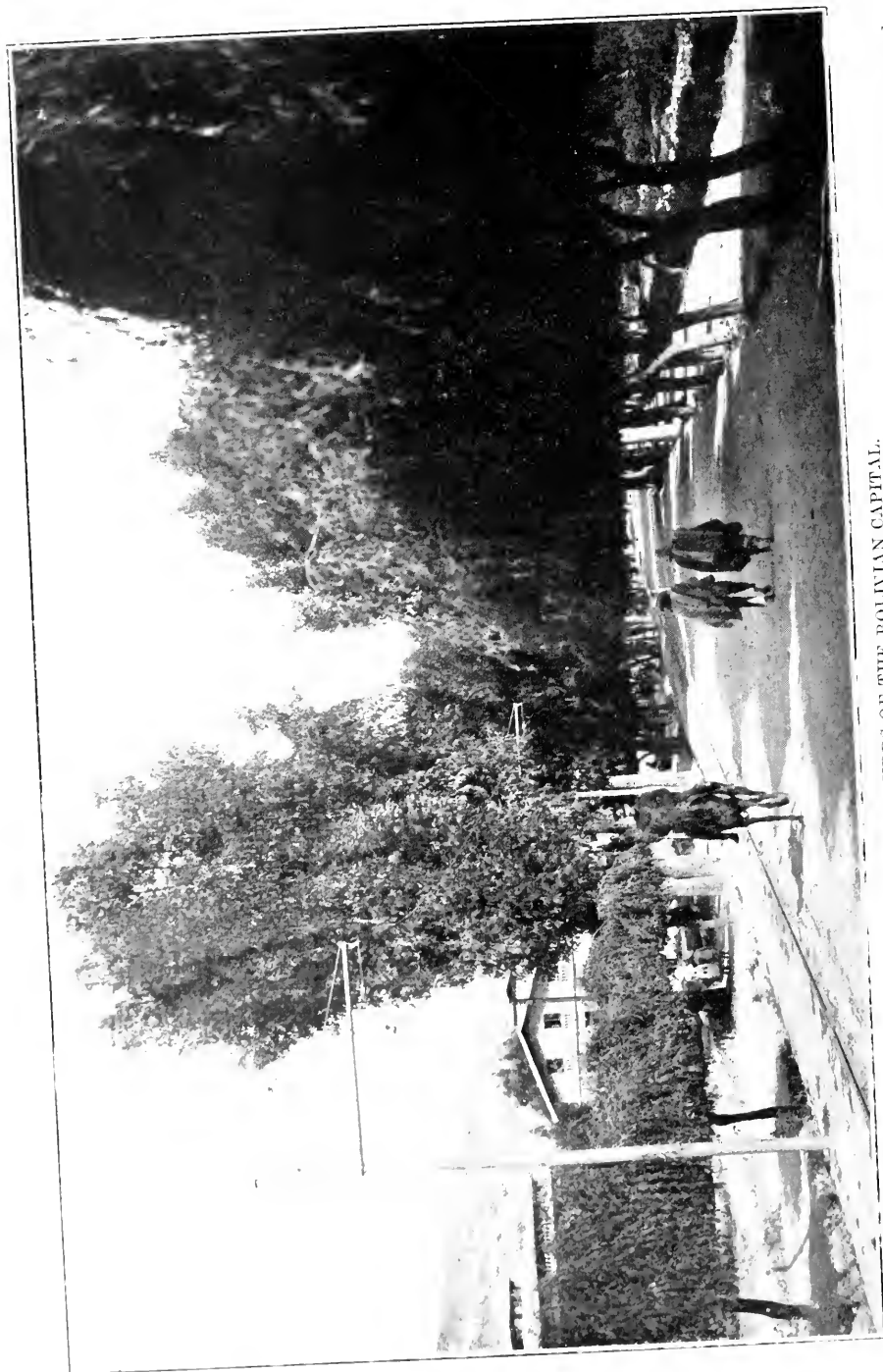


Photo by I. E. Scheeder.

IN THE SUBURBS OF THE BOLIVIAN CAPITAL.

Improved streets and abundant foliage, make this section of La Paz a popular rendezvous for afternoon and evening crowds. The electric line has been constructed as far as Obrajes, about 6 miles distant. Automobiles and carriages are also used for making the trip.

from various parts of Chile, from Argentina, Bolivia, and other countries. Chilean life is to be seen at its best.

From Valparaiso to Panama the tourist has a voyage of 3,200 miles (time, 15 days for fast vessels making few stops), and for more than half the distance the ship sails with the northward-flowing Humboldt current, which bathes the whole Chilean and many miles of the Peruvian coast. Along this vast coast line stretches one of the world's mineral wonderlands. Hundreds of miles are bare and brown; nothing grows and nothing lives, save where man here and there has established settlements and towns, whose inhabitants are kept alive by the importation of food and drink. In supplying Antofagasta, for instance, with water for domestic purposes a pipe line nearly 200 miles long is in use.

In normal times there are five or more lines of steamers which transport the traveler northward, and on at least two of these lines the tickets are interchangeable. We may go part way by one company's vessels and then transfer to those of the other. This service permits of approximately weekly sailings. The lines are Cia. Sud Americana de Vapores and the Pacific Steam Navigation Co., the former a Chilean and the latter an English company. From Peruvian ports to Panama there is the Peruvian Line, and a Japanese company is now sailing its fine passenger ships between Valparaiso, Panama, San Francisco, and the Orient. The Japanese vessels are the largest passenger steamers now in service along the west coast.

Most tourists prefer to break the long voyage by a visit to Bolivia. Suppose, then, we leave the ship at Antofagasta. This city of 20,000 people has completely changed its life and appearance within the last two years. Street paving, sidewalks, new buildings, paint, motor cars, and motor busses have wrought marvelous improvements.

About twice a week there is a through train to La Paz, the capital of Bolivia. The distance is 711 miles; time, 45 hours; the gauge of the road is 2½ feet; and the highest elevation along the line is approximately 12,500 feet above the sea. The route lies across the nitrate region of Chile and through the mineral belt of Bolivia. Sleeping and day coaches are provided. Meals are served in a dining car, and they are a credit to the English company operating the road.

Some people find the journey monotonous; others consider it interesting and delight in watching the sights along the way, such as nitrate operations, salt lakes, native villages, droves of llamas and alpacas, primitive peoples, and wonderful views. A short distance beyond Calama the train passes over a bridge spanning the River Loa. The former is 336 feet above the rushing waters, while the altitude is over 10,000 feet above sea level. Lake Poopo, which receives the waters of Lake Titicaca, and has practically no visible outlet, is one of the interesting sights near the road.



A GLIMPSE OF THE RUINS OF TIAHUANACU.

Scientists believe this city may have existed 3,000 years ago. To-day for a distance of 10 miles there are portions of buildings or streets fairly well preserved, far better than the above picture indicates.

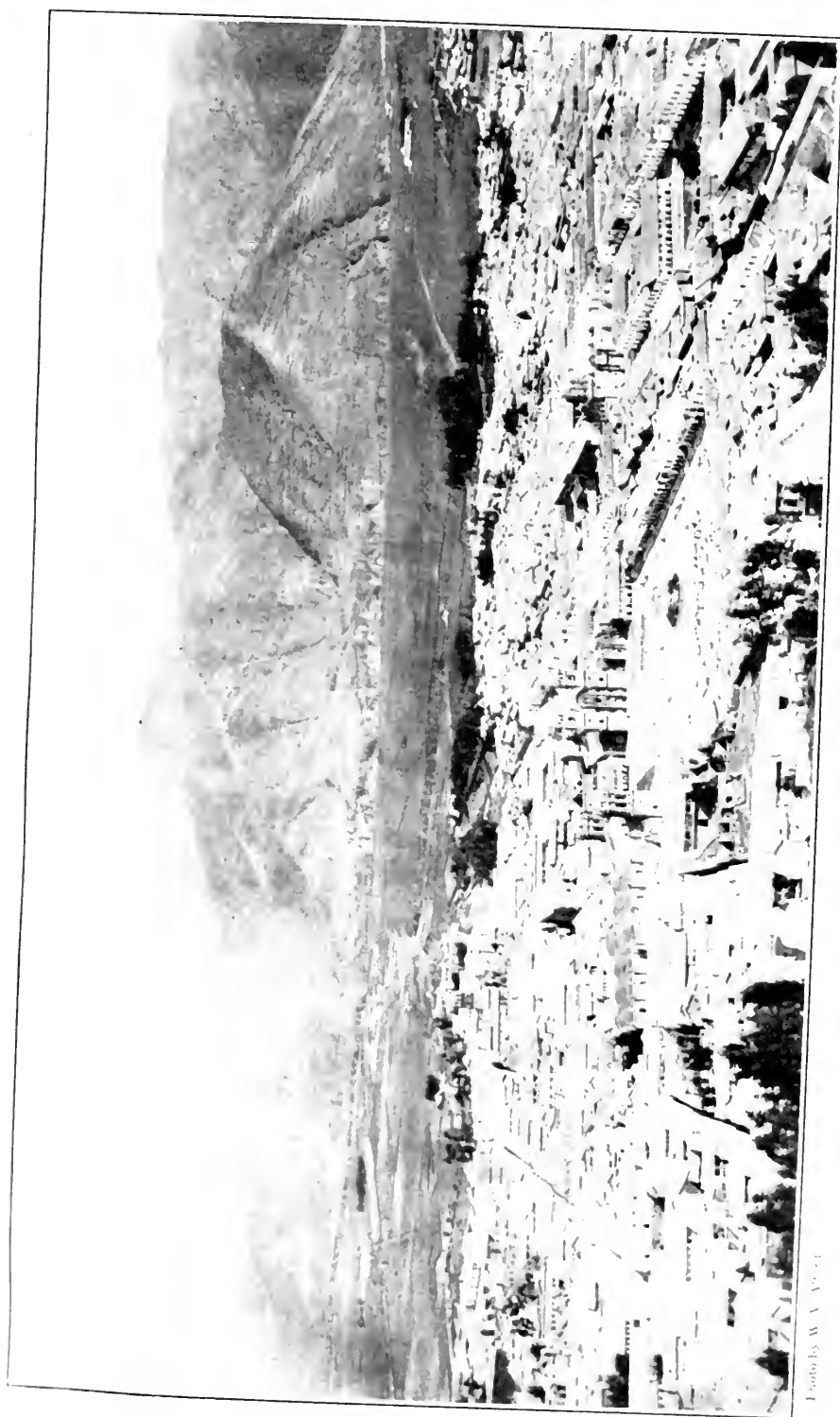


Photo by W. V. A. 1914

GENERAL VIEW OF CUZCO.

Here the tourist crowd in the morning work of ancient man

on the large plaza and within the cathedral fronting thereof are interesting sights and customs. Extensive ruins lie in the suburbs of the city.

At Oruro, 150 miles from La Paz, all passengers must change to the standard-gauge railway, which was built by United States capitalists. The business man may stop over at Oruro and possibly visit Cochabamba in Bolivia's rich agricultural region; but the tourist, in his usual hurry, passes on to La Paz.

The first sight of the Bolivian metropolis from the Alto, where the steam railway terminates, is indescribably grand and picturesque. A modern electric road conveys the traveler down the mountain side into the city. The winding ride of a few miles presents at every turn new and attractive views. One wonders why the city was started so deep down in a gigantic valley. This is explained by the fact that early settlers found specks of gold in the streams flowing down from the mountains, and the settlement has grown to a populous city.

La Paz has more than 80,000 people. Many of its streets are steep, but modern electric cars wind in and out, while automobiles are growing in number and are especially serviceable in the newer and more modern paved sections of the city and its suburbs. La Paz possesses many ancient and numerous imposing buildings; among the latter are the new capitol building, the municipal theater, and the private residences on the Alameda. Persons interested in antiquities will find a wealth of material in Bolivia, and a visit to the National Museum in La Paz should not be neglected. The city's markets are also interesting, especially on Sundays, and to those familiar with the market places of Cairo, Darjeeling, etc., which always have their complement of tourists, the life, customs, and colorings seen at La Paz form striking comparisons. A coach or motor-car trip to Obrajes is well worth making.

The average tourist in his hasty visit does not see Bolivia in detail—a land which the gifted naturalist, Raimundi, described as “a table of silver supported by columns of gold,” so abundantly has nature deposited her minerals in this part of the world. May to December is usually regarded as the best season for the stranger to visit Bolivia.

Leaving La Paz, the tourist will make the best use of his time by passing out via Lake Titicaca to Mollendo, on the Pacific. Distance from La Paz is 520 miles. He could go directly to Arica, 287 miles, but in choosing the shorter route would miss the ruins of Tiahuanacu as well as the experience of a steamer voyage on the highest large body of water in the world, Lake Titicaca. Fifty miles from La Paz, en route to the lake, the railway train passes through a section of Tiahuanacu. The train usually stops and one may secure glimpses of vast ruins on either side of the road. If longer time is desired special arrangement should be made with the railway officials before leaving La Paz.

Ten miles farther northward we find ourselves on the shore of Lake Titicaca, famous in legend, history, and story. The lake and



ASCENDING TO THE ZOO

The low modernism in his utilized the works of his forefather
 in addition built within room Vent

The low modernism in his utilized the works of his forefather
 in addition built within room Vent

the surrounding region is strikingly picturesque. Bolivia's towering peak, Sorata, dominates the landscape with its mantle of snow; lower peaks and small ranges add to the charming scene; cloud effects are striking and the apparent nearness to the sky is especially pronounced. Altitude is about 12,500 feet.

Our course lies diagonally across the lake 125 miles to Puno in Peru. If an early start is made (boats usually leave a few hours before dark) the traveler may be rewarded by glimpses of the islands of the Sun and of the Moon whence came, according to tradition, the founders of the Inca race. "Necessity is the mother of invention," and nowhere do we find the statement more literally exemplified than in the balsas made of coarse grass which the natives of the region sail on the lake. No wood being available within many miles of Titicaca, the native resorted to the grass balsa which well serves his purpose. Nearing the Peruvian shore, the tourist should be on deck early in the morning to enjoy the picturesque surroundings and also to see the "narrows" through which the little steamer passes shortly before arriving at Puno. Meals on the Titicaca steamers are usually quite satisfactory, although practically everything must be brought thither from Bolivian or Peruvian cities many miles distant.

An hour or two is the usual length of time required in landing, passing Peruvian customs and transferring to the railway at Puno. Trains now meet the boats on the pier and receive passengers and baggage. A short stop at Puno depot affords the tourist time to walk about the few streets; the railway follows the shore of the lake to Juliaca, about 10 miles distant. Here the railroad branches; one line leading to Cuzco, 237 miles, and the other to the coast at Mollendo, 324 miles. The time to either place is slightly less than two days; there are no night trains.

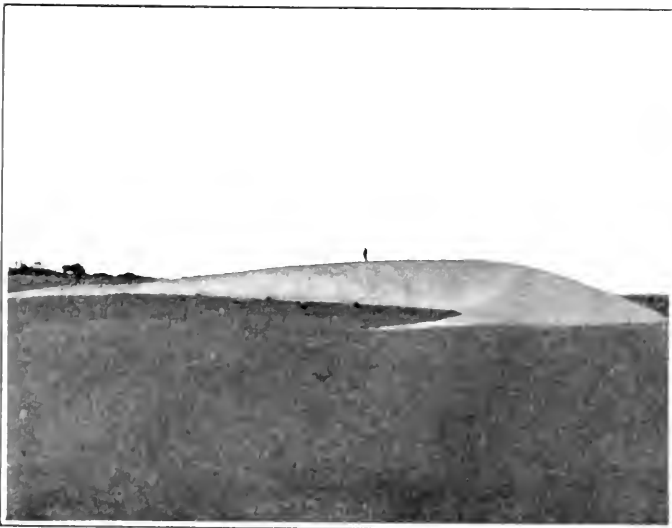
At present there are two trains a week passing Juliaca for Cuzco. If there should be a sufficient number of tourists traveling together, say twelve or more, arrangements might be made by communicating with the railway superintendent at Arequipa for a special train and quicker service. If one must wait connections at Juliaca there are two small and primitive hotels. Leaving this junction at about 10 a. m. the journey is uneventful, and by night one is glad to rest at another primitive town, Sicuani, the most important place along the route. Meals are served at Tirapata and Sicuani. Highest point reached on this railway is at La Raya, 14,150 feet above the sea. Descendants of the Inca race offer trinkets to the stranger at various stations.

Cuzco, capital of the former Inca Empire, has to-day about 26,000 people and is located at 11,000 feet altitude. It is ancient and interesting, and even if conditions are primitive the tourist is glad to visit the marvelous and many well-preserved works left by Inca



THE PORT OF MOLLEND, PERU.

Mollendo is the landing place for the Southern Railway going to Arequipa, Lake Titicaca (Cuzco), and La Paz. Steamers always lie outside, but when the barge or rowboat is once within the protection of the pier, loading or unloading can be carried on with facility. The railway is comfortable, carrying chair cars and buffet, and the scenery along the line is remarkably interesting.



ONE OF THE SAND CRESCENTS OF THE DESERT OF ISLAY

Scattered over a vast area between the streams Vitor and Tambo, and bounded by the Andes and the Pacific, are hundreds of these symmetrical sand crescents. The tourist has an opportunity for viewing them from the train en route from Arequipa to Mollendo.

and pre-Inca civilization. Horses and mules are used in visiting the ruins. Cuzco boasts a university, with an American rector. The newest hotel is called the Pullman; other hostelrys are the Comercia, Royal, and Central. The hurried tourist usually devotes only one day to Cuzco; but many weeks could be employed to advantage by those who wish to delve into history.

Returning to Juliaca, the tourist catches the first train eastward. A full day is required to reach Arequipa, the train climbing to an altitude of 14,666 feet and then gradually descending; before Arequipa is reached at nightfall the valleys begin to show vegetation and agricultural crops are possible. The day's ride presents many fine views as well as marvelous feats of engineering. Meals are served on the train and are usually well prepared and wholesome. Mount Misti, 20,000 feet high, often white with snow and pouring out smoke from the interior regions, dominates the landscape long before the train reaches Arequipa.

Arequipa was founded by Pizarro in 1540. It stands at an altitude of 7,500 feet, has about 40,000 inhabitants, and is gradually modernizing. Electricity has been introduced for cars and lighting purposes and there are a number of new buildings. Among the places of interest are several ancient cathedrals, the Garden of Lucioni, new market, and the observatory of Harvard University, within a short carriage drive, which deserves a visit. Owing to the prevailing clear atmosphere the photographs of the heavens secured by the scientific staff are especially interesting. Arequipa's new hotel offers improved accommodations for the traveler.

From Arequipa to the port at Mollendo the distance is 106 miles; the train's time is about 5½ hours over a zigzag course; the right side of the train offers best views of the barren grandeur. There is a parlor car attached to some of the trains. The railway leads across the desert of Islay; the traveler should watch for the curious sand crescents numbered by thousands. Always in the form of crescents, continually but slowly moving, rarely disturbed by man or beast, they present an interesting scientific phenomenon.

Mollendo is reached about noon; a desert on one side and the ocean on the other. A steep walk leads from the station to several hotels and business streets. The place contains about 6,000 population, mostly of laboring classes. From May to November fogs and mists frequently prevail at Mollendo as well as generally along the Peruvian coast. There is little amusement, the chief one being that of watching the huge breakers dashing against the rocky coast line. A small bathing beach is popular. A number of ships are to be seen anchored offshore, and there are approximately weekly sailings. One may remain in Arequipa awaiting the arrival of ship at Mollendo; often it is possible to leave the former in the morning and catch the vessel

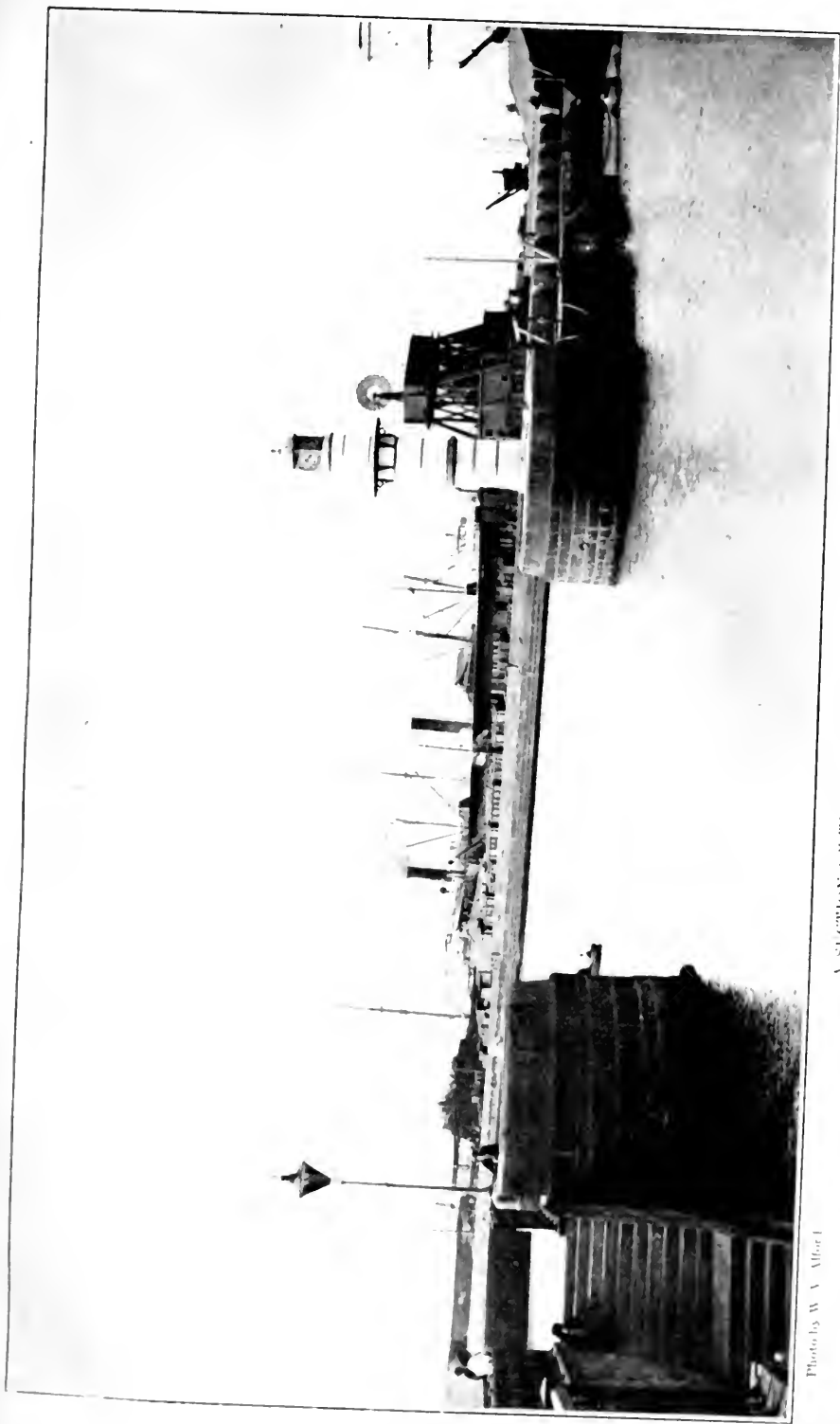


Photo by W. A. Miller

A SECTION OF THE NEW PORT WORKS AT CALLAO.

The average ship anchors far out in the harbor, and the tourist, anxious to get ashore as soon as possible, takes one of the small boats manned by natives and is rowed to land through the opening above portrayed.

at Mollendo late in the afternoon. Heavy swells usually prevail at this port, making the boarding of ships, a mile or two out in the roadstead, difficult and sometimes dangerous.

Steaming from Mollendo to Callao, 435 miles, is usually accomplished in less than two days, depending on the number of ports visited en route. At Callao there are modern docking facilities, but landing is usually effected by means of the small boat manned by native "fleteros," who also take the passenger's baggage ashore. They contract for a stipulated amount to deliver the baggage in the hotel at Lima. The history of Callao has been eventful, but closely associated with that of Lima, 8 miles inland. There are steam and electric car connections, the latter being more convenient. Cars leave a point near the landing pier.

Lima, on the Rimac, was founded by Pizarro in 1535, and the mummy of the founder lies in the cathedral and may be seen by visitors. To-day the city has 150,000 population; altitude, 500 feet. Rain rarely falls, and irrigation supplies moisture for the surrounding region. During recent years Lima has greatly modernized, most of the newer buildings being found in the Exposition section where beautiful avenues, magnificent public and private edifices are a special feature of the city's growth. Business centers about the Plaza de Armas; electric car lines radiate to all sections from this central point. Hotels, cathedrals, post office, Houses of Congress, and many commercial establishments are located on or within a few squares of this plaza. Afternoon and evening crowds, music by military bands, etc., offer the stranger many interesting studies of Peruvian life. October to May is the best time to visit Peru.

Some of the important places in addition to those above named are San Marcos University, founded in 1551; the National Museum and the new Commercial Museum, both interesting; Inquisition Plaza, Paseo Colon, Botanical Gardens, Cristobal Hill, bull ring (one of the largest in the world); trolley trips to Chorillos, Barranco, La Punta, etc., in order to see Peruvian bathing resorts; an excursion to Oroya, 138 miles, over the highest standard gauge railroad of the world is interesting but hard on those having weak hearts.

From Callao to Panama the distance is about 1,300 miles. Most of the ships in this service make under 300 miles per day. There are a number of ports of call. At Salaverry the ship may stop long enough for a hurried rail trip 10 miles inland to Trujillo. The ruins of Chan Chan lie a few miles from the town; a distant view of portions of them and of the Pyramid of Moche may be had from the train (right side going). At Payta, 850 miles from Panama, vendors of Panama hats come out to the ship in large numbers. Beautiful hats may be purchased at reasonable prices—two-thirds or a half cheaper than in the United States.



UNLOADING CATTLE AT CALLAO

Notwithstanding the fact that Peru raises many cattle, additional beef cattle must be imported. The picture shows the method of handling them. Breeding stock is also imported in increasing numbers.

Ecuador will soon be ready for a greater business with the world and for the tourist. Guayaquil, the country's chief port, is now undergoing a thorough sanitating. Streets are being modernized, and otherwise the city is improving. The ancient capital of Ecuador, Quito, lies nearly 300 miles by railway from Guayaquil. A few tourists have used the new railway "along the roof of the world" and visited the interesting old city.

Guayaquil lies up the Guayas River 60 miles from the ocean, so the average ship passenger does not even secure a passing view of the second port of importance on the west coast of South America. However, on clear days when the ship is not many miles from shore it is possible to sight Cotopaxi or Chimborazo, the former sending to the sky a smoky column from its snow-white cone.

Northward 840 miles we sight the foliage-bedecked islands in the Bay of Panama, and shortly thereafter drop anchor near the entrance to the world's greatest canal.

CARTAGENA



THE verdant tropical shore with the Turbaco hills forming the picturesque background greets the voyager as the ship draws near the Colombian coast at Cartagena. Nearer and nearer we approach the land and finally distinguish the great wall for which the city is famed. To-day, as in years gone by, this massive work is one of the attractions of the place.

Not many years after Columbus came to the New World, or to be exact, in 1533, Pedro de Heredia began a settlement which to-day bears the name of Cartagena. Through centuries of building and numerous destructive sieges the city has existed and gradually increased its commercial importance. Situated on an island running parallel and very near the mainland, Cartagena has a warm climate, but back from the shore on the hills the temperature is far more agreeable, and it is there that many of the best suburban residences are found.

During the constructive period of the Panama Canal the activity of Cartagena was more marked, and, in addition to greater traffic in general, travelers in increasing numbers voyaged to this interesting port. Many of the ships of European companies make Cartagena a port of call, while other lines operating steamers from the United States to and from Colon make Cartagena an additional stop.

To strangers the most interesting feature of Cartagena is the ancient wall. This stupendous piece of masonry was years in building, and it represents the work of hundreds of laborers. As



SCENES IN CARTAGENA.

Upper: The new market building, showing a few of the small boats that bring products thither from surrounding regions. Lower: The entrance to Centennial Park, the high monument within the park is one of the specially attractive art creations.



SOME OF THE COMMERCIAL ASPECTS OF CARTAGENA.

Upper: The railway station from which trains depart for the port of Calamar, on the Magdalena River, 66 miles. Lower: The railroad viaduct; in the background may be seen a petroleum refinery, one of the newer commercial activities of Colombia.

a whole it is one of the best preserved landmarks to be found in the Americas. From the sea it presents a formidable appearance; but when once within its gates the traveler may take advantage of one of the surreys, which are plentiful in Cartagena, and drive along the wall and examine its fine workmanship. In many sections it is 30 to 40 feet thick and originally inclosed the city; the latter was nearly a mile long and half a mile wide.

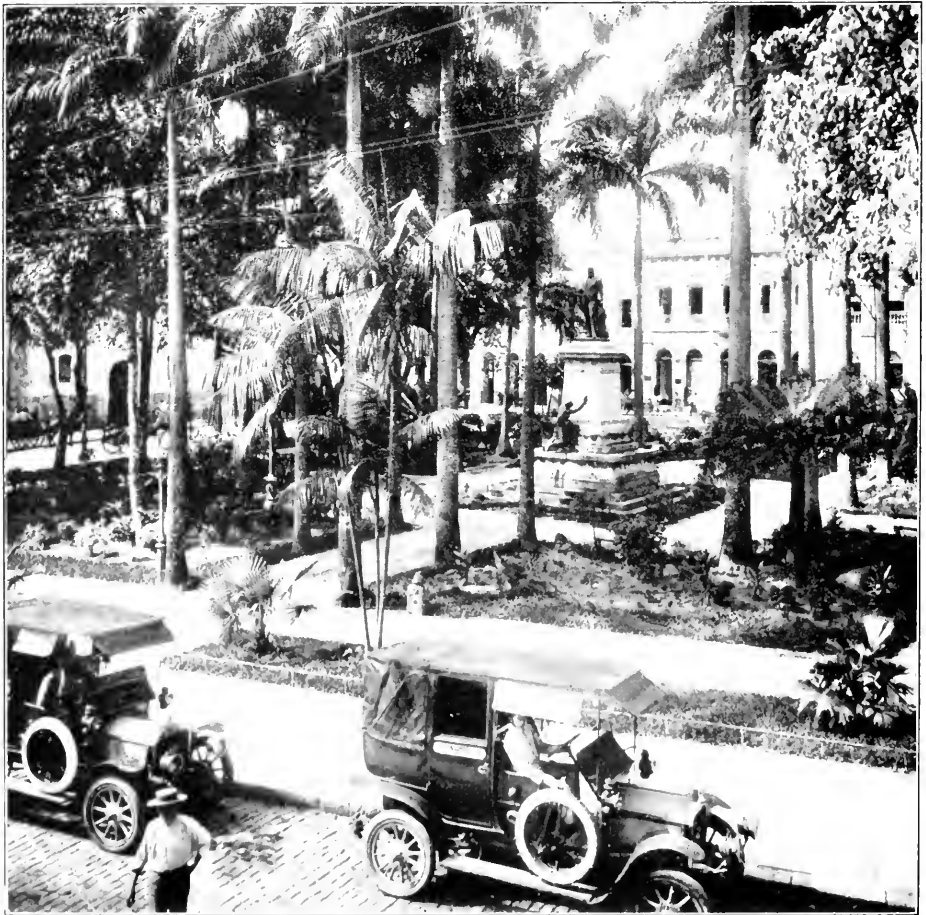
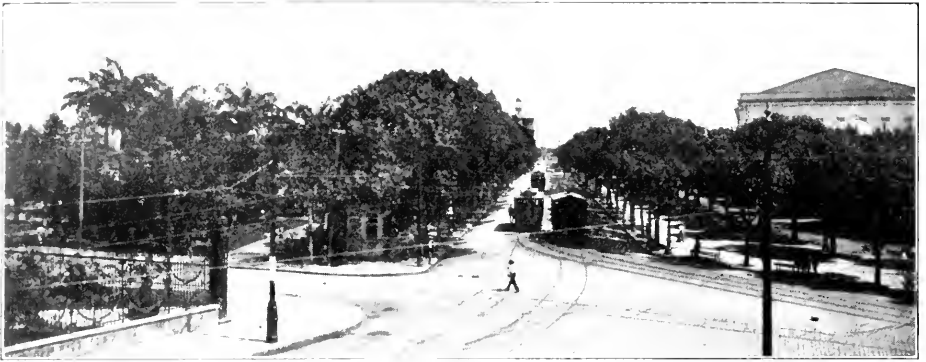
Cartagena's streets are narrow, and its buildings partake of Moorish architecture, with thick walls, red tile roofs, and large open courts. The city has to-day about 28,000 inhabitants; electricity is being used to greater extent each year in commercial and industrial undertakings, while the railway from Cartagena to Calamar, on the Magdalena River, 66 miles, provides an increasingly popular artery for up-river traffic for the interior, and vice versa. Colombia imports through this port cotton, linen, and many other fabrics, hardware, machinery, glass, etc. On the other hand, Colombia's exports are considerably greater in value and during a recent year amounted to more than \$32,000,000. They included such things as coffee, gold, hats, rubber, emeralds, ivory nuts, etc. The harbor of Cartagena, through which the bulk of a commerce of more than \$53,000,000 passed last year, is considered one of the best on the north coast of South America. It is protected by two long islands and covers an area of approximately 60 square miles.

THREE THOUSAND MILES UP THE AMAZON¹ ∴ ∴

ON board the steamer bound south out of New York, one meets with the usual rolling stone who has learned everything but to mind his own business. He will inform the traveler of the dreadful climates to be endured, the shameful treatment extended to all foreigners, most especially Americans, that will have to be suffered in passing through customhouses; and other similar tales.

After a voyage of 14 days, the city of Para, better known as Belem, is reached, and among the many pleasant surprises that greet the traveler is the excellent and prompt manner in which his baggage is cleared through the customs by intelligent officials, who act with a degree of promptness that one would hardly expect in such close proximity to the Equator.

¹ By F. D. Duerr.



Courtesy of The Pan American Magazine.

STREETS AND PARKS OF PARA, BRAZIL.

Upper: The Avenida da Republica, one of the fine, wide, tree-lined avenues of the city. Lower: Visconde de Rio Branco Park, with the Dr. Malcher statue in the center.



Courtesy of the Pan American Magazine

VIEWS OF PARA, BRAZIL

Upper: The cathedral, erected in 1761. It marks the style of architecture in the Amazon region. The lower view shows a well-kept structure of the eighteenth century. A fine marble altar and a statue of the Virgin Mary are the chief features.

Lower: A picturesque corner in Baptist Camp Park.

From the pier or dock, which compares favorably with the best of our country, there are electric cars or automobiles that will take one to a first-class hotel, of which there are several in Para, where the inland traveler can put up until he makes his connection with a river steamer.

The climate of Para is damp and warm, with a mean annual temperature of 79° F., the highest and lowest ranging from 90° to 70° F. The daily rain, which varies in length from 1 to 5 hours, according to the season, brings great relief, and also helps to make Para one of the cleanest of cities.

There are many points of interest, among others the botanical gardens and the zoo, which latter is said to harbor at least one member of every animal family that is located along the Amazon.

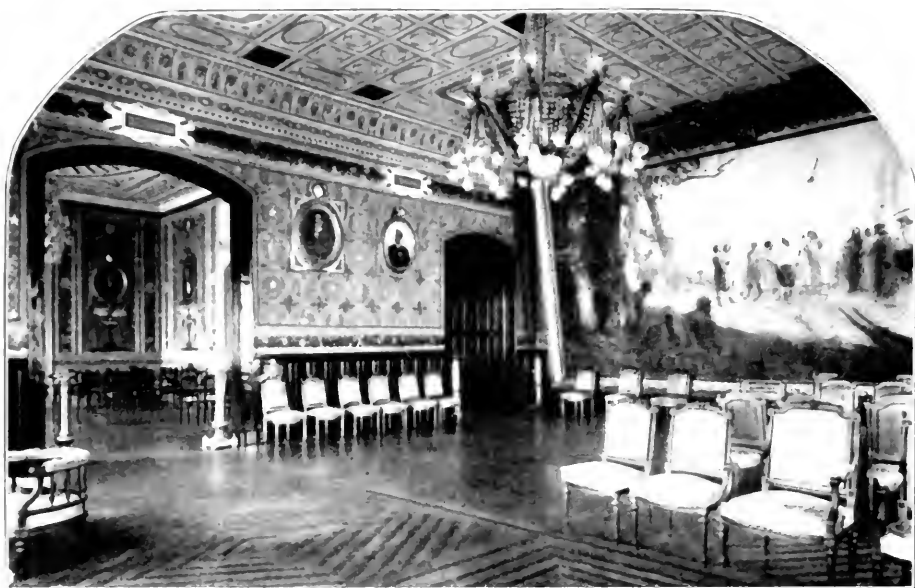
Para is a very busy place, modern in every sense of the word, and it seems that in this city of 125,000 people a lucrative market for diverse American articles is inviting the American exporter. The chief articles imported are foodstuffs, wearing apparel, machinery, cement, and building accessories, hardware, stationery and office supplies, paints, lubricating oils, motors, and druggists' sundries.

The exports are principally in crude rubber, but there are also quantities of cacao, brazil nuts, hides, medicinal roots, and hardwoods shipped out of this port. While an insignificant part of the rubber shipped through Para is gathered there, or even within several hundred miles, all is classified in the world rubber markets as "Para rubber," no matter whether obtained from Bolivia, Peru, or Brazil.

There is ample diversion for the visitor, Para having three or four first-class moving-picture theaters, and during the season there are performances given in the large principal house that bear comparison with first-class productions anywhere. The fine public buildings, hospitals, monuments, and parks should not be overlooked.

The advanced stage of Para's sanitary conditions are, to a great extent, due to the energetic work of Dr. Oswaldo Cruz, who has introduced methods similar to those of the Americans in Habana and Panama. The strict regulations have made Para a safe city.

There are several ways of making the trip up the Amazon, the quickest being by means of an ocean steamer of either the Brazilian or British lines, which operate as far as Manaus. There are occasional British boats that go as far as Iquitos, Peru. In this way the trip to Manaus can be made in from three to four days. To properly see the Amazon, however, it is better to go by one of the river boats, which ply lazily up against the fast current. On account of the high cost of taking coal to the Amazon, the river boats are run by wood fuel, and the larger steamers consume about 12,000 sticks of wood, 4 feet long by 4 by 4 inches, per day. On an average of every other day this fuel is loaded from the river banks, stick by stick, all the



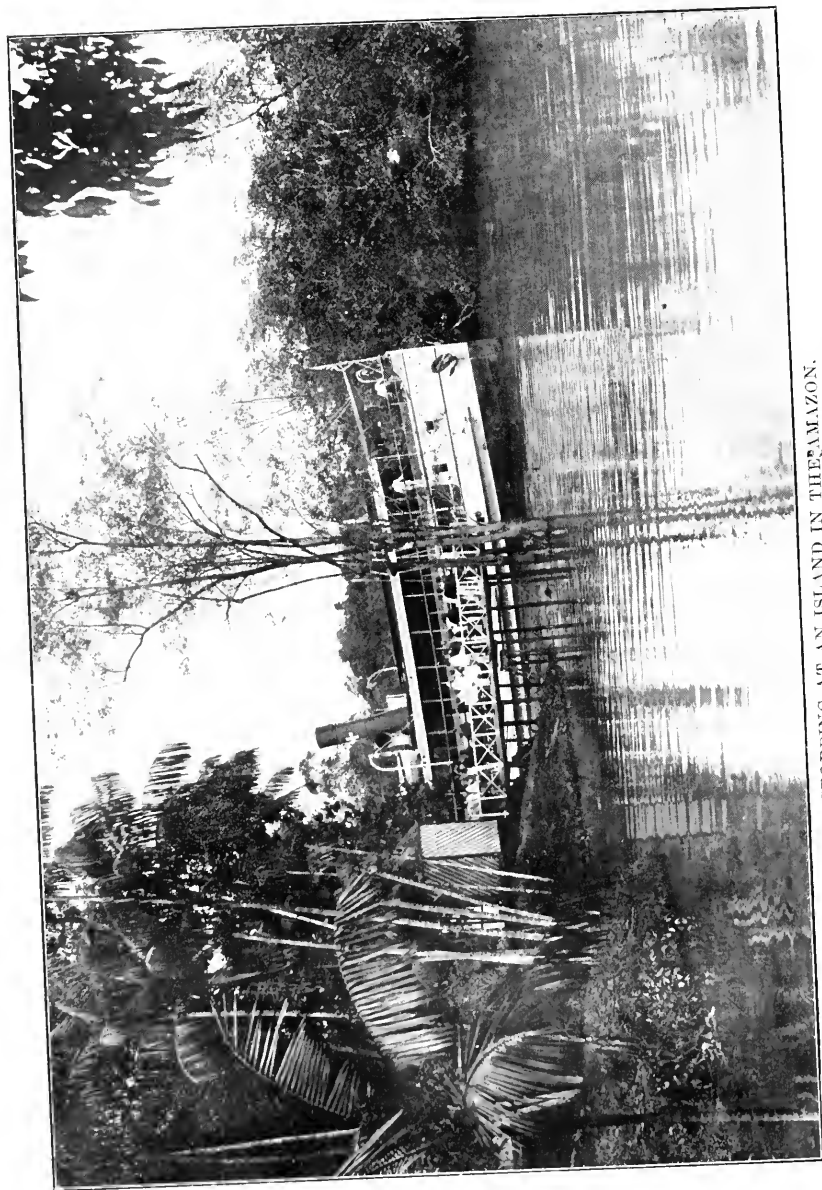
Courtesy of the Pan American Magazine

THE MAIN SALON IN THE GOVERNOR'S PALACE, PARÁ, BRAZIL.



TWO VIEWS OF THE THEATRO DA PAZ, PARÁ, BRAZIL.

The Theatro da Paz is located in the Parque João Coelho, formerly known as the Parque da Polvorinha. It is particularly beautiful in its interior, and is admirably adapted to its purpose.



STOPPING AT AN ISLAND IN THE AMAZON.

In places the islands in the Amazon are so numerous that the mainland is not visible from the steamer and the channels between so narrow that vessels going in opposite directions have difficulty in passing.

work being by hand, and needless to say, this operation, after being witnessed more than once, may become somewhat tiresome.

The cabins on the boat are large and roomy, and have electric lights and fans; the dining room is aft on the open deck, and in the mornings, as during the greater part of the day, it is quite comfortable on board. After sundown, however, the number of insects of all types, sizes, etc., makes it unpleasant, and the traveler finds it necessary to escape into his screened stateroom, or into his hammock or cot, carefully inclosed by mosquito netting of very fine mesh. There are four first-class shower baths on board, also running water in the cabins, and everything considered, one can make one's self fairly comfortable. The captain, or "comandante," as he is called, rules supreme, and, on the average, is a highly educated navigator, and he and his "cabinet" of officers are very agreeable to the passengers. When one becomes accustomed to the food, it is very nourishing, and the service on the whole is satisfactory.

Besides the frequent stops for fuel, the steamer calls at a half dozen points between Para and Manaus, the principal ones being Santarem, noted for its fine batelões (large rowboats and lighters used on the Amazon); Obidos, the narrowest part of the river; and Itacoatiara, near the mouth of the Madeira River.

A further surprise to the traveler, who has just spent 10 days on the mud-yellow river, is the sudden change in the color of the water to a deep black, which is the first sign of approaching the city of Manaus, a thousand miles from the mouth of a tropical river.

This city has an excellent electric car service, numerous public and private automobiles, first-class hotels, and several moving-picture houses. There is a spirit and bustle of traffic in the streets that reminds one of our own Boston. The climate seemed somewhat hotter than that of Para, although the idea of being so far inland might impress one that way. As far as the climatic and general conditions are concerned, one should be able to remain comfortably for many years. There is extensive trade, and with direct steamers between all principal Brazilian ports, Liverpool, and New York, sailing at regular intervals, it can readily be seen that Manaus has an important position in the world's commerce. Inasmuch as the climate, imports, and exports are very similar to those of Para, it will be unnecessary to go into further detail regarding same.

The river steamer having remained three days in Manaus, is now ready to continue her journey. The trip up the Amazon above Manaus takes one to Iquitos, the wonderful inland town of Peru with an outlet through the Amazon to the Atlantic Ocean, while it is but 500 miles from the Pacific coast. However, as our destination is in another direction, we will resume the journey on our river boat.



PANORAMIC VIEW OF

"A further surprise to the traveler, who has just spent 10 days on the mud-yellow river, is the sudden change in the color tropical river. This city has an excellent electric car service, numerous public and private automobiles, first-class hotels, * * * There is extensive trade, and, with direct steamers between all the Brazilian ports, Liverpool, and New York,

We return down the Amazon as far as Itacoatiara, entering the Madeira River, the principal tributary of the Amazon. There is very little change from the previous scenery, the same motions of loading fuel are gone through, and from Manaus to the end of the steamer trip there is very little of special interest. Only three towns on the entire trip of 700 miles, consuming a week, are encountered—Manicore, Calama, and Huimaita. Numerous stops are made at rubber estates, there being several hundred along both banks of the Madeira, to deliver the mail.

The steamer trip ends at San Antonio, but as Portovelho is the starting point of the Madeira Mamore Railway, the voyage practically terminates at the latter place. On account of the rapids and falls in the Madeira River that begin a little above San Antonio, through river transportation on this stream is impossible for a distance of some 200 miles, 14 of these falls and rapids interfering with same. This was the prime reason for the building of a railroad, which is one of the world's marvels, ranking close to the Panama Canal as an engineering achievement, and but for European events attracting so much attention the road would be more known to the general public than at present. The pioneer work was done as early as 1867 by an American, Col. George Earl Church, and, like many other great undertakings that finally were successful, this one proved a failure until as late as 1910, when, with more modern railroad construction ideas and a fearless and competent staff of American engineers, the work was resumed and continued steadily until trains were running over the road. The road is about 200 miles long, 1-meter gauge, single track, with a siding every 6 miles, and runs from Portovelho to



MANAOS, BRAZIL.

of the water to a deep black, which is the first sign of approaching the city of Manaus, a thousand miles from the mouth of the Amazon. There are several moving-picture houses. There is a spirit of bustle and traffic in the streets that reminds one of our own Boston. Sailing at regular intervals, it can readily be seen that Manaus has an important position in the world's commerce."

Guayamerin, entirely on Brazilian territory. The cost of construction and equipment was close on to \$50,000,000 United States gold. The railroad trip along this stretch of the river consumes one day; it formerly took from six weeks to two months to cover the same distance.

Arriving at Portovelho one finds a mushroom town, such places as are located the world over where a sudden undertaking, such as the building of a canal or railroad or the development of a mine on a large scale, calls for the installation of headquarters. Before the railroad was contemplated, Portovelho was little known, even to the people of the Amazon regions. To-day, besides the large and modern railroad shops, there is found a telephone system, a wireless station, electric lighting of the streets, residences, offices and other buildings of the road, running water, and an ice plant that furnishes the ice for all the points along the line and even for some of the towns across the border in Bolivia. One mile distant, at Candelaria, there is a fine hospital with first-class equipment in every respect. Practically every train that leaves Portovelho carries a hospital car, and serious cases are rapidly conducted to the hospital.

The fuel question, like on the rivers, has been a problem, and the locomotives at present burn wood. For some time there had been but one train per week in operation in each direction, but a few months ago, with a little more cargo offering, the company started two trains per week. The trains leave Portovelho at 8 a. m., arriving at a small station some 40 miles distant at noon, where the company operates a first-class restaurant. At 1 p. m. the train is off again, arriving at Abuma at 6 p. m., where all passengers stop for the night. This is one of the principal stations along the line, as near this point, across



THE PALACE OF JUSTICE, MANAOS, BRAZIL.



THE CUSTOMHOUSE OF THE PORT OF MANAOS, BRAZIL.



THE BENJAMIN CONSTANT INSTITUTE, MANAOS, BRAZIL.



THE PUBLIC LIBRARY, MANAOS, BRAZIL.

the Madeira River, is the Bolivian frontier. There is an exceptionally fine hotel at Abuna, run by an American, on as up-to-date a basis as his surroundings will allow. Incidentally, this is the last opportunity the traveler has of sleeping in a bed, as henceforth he must rely either on his hammock or cot, and by all means must he have the "mosquito bar," which is worth many times its weight in gold in such parts.

Across the Madeira River from Abuna is located the Bolivian town of Manoa, and in this district we begin to come in contact with the best rubber trees of the world, which continue right up through Bolivia toward the Andes. Thanks to a farseeing and intelligent policy, the Bolivian Government has been adhering to a rigid system of "tapping" the trees, and for this reason the Bolivian rubber, generally known as "Up-river Para," is selling in the principal world markets at from 3 to 5 cents per pound over that paid for rubber from other parts.

An American company proposes to work in this Abuna section on an extensive scale, and is sending a party of engineers and rubber experts down to make a survey and a preliminary report for its board of directors.

We will return to Abuna, Brazil, where, after our night's rest, our train departs at 8.30 the following morning for Villa Murtinhu, almost 60 miles away. This village is located on the Mamore River, directly opposite being Villa Bella, Bolivia, which lies between the Mamore and Beni Rivers. These two rivers, the Mamore and the Beni, form the Madeira.

The first impression of Villa Bella is disappointing, but one soon becomes accustomed to the disadvantages and forgets all the hardships when coming in close contact with the inhabitants, who are truly charming. As this is the gateway to the great Beni district, and one of the principal Bolivian customhouses is located here, there is considerable traffic, and the half dozen commercial houses and forwarding agencies all seem to do a good business. With no attractions in the way of theaters, clubs, drives, riding, etc., the inhabitants spend most of their spare time in reading, in practically every case the residents having well-stocked libraries of their own, and they are thoroughly posted, through close perusal of magazines and trade journals, on almost everything that is going on in other parts of the world.

The climate here is hot and damp, and there are many insects and mosquitoes. Those acclimated seem to stand conditions pretty well, however, and there are some who have resided in this place over 15 years that appear to enjoy good health.

The first trip to the mouth of the Beni River was made by an American, Dr. Edwin Ruthven Heath. This stream is navigable for small steamers for over 500 miles; but, like the Madeira, it is crossed



RAILWAY STATION AT ABUNA, BRAZIL.

This is one of the principal stations along the Madeira-Mamore line. "Across the Madeira River from Abuna is located the Bolivian town of Manoa, and in this district we begin to come in contact with the best rubber trees in the world, which continue right up through Bolivia toward the Andes."



A PIER FOR OCEAN STEAMERS BETWEEN PORTO VELHO AND CANDELARIA, BRAZIL.

Porto Velho is the terminus of the Madeira-Mamore Railway. Mr. Dyer writes of it as follows: "Before the railroad was contemplated Porto Velho was little known, even to the people of the Amazon region. To-day, besides the large and modern railroad shops, there is found a telephone system, a wireless station, electric lighting of the streets, residences, offices, and other buildings; of the road running water, an ice plant that furnishes the ice for all the points along the line and even for some of the towns across the border in Bolivia."

by rapids and falls that make it impossible for through traffic. Only 30 miles from the mouth of the Beni there is one of the worst rapids of the entire region, known as "Cachuela Esparanza" (Fall of Hope). Many lives and valuable cargoes have been lost in this Fall of Hope. On account of such a small navigable stretch, there are no steamers on this portion of the Beni. There are, however, high-power gasoline launches running between Villa Bella and Cachuela Esparanza.

Cachuela Esparanza, located on the above rapids, is also the name of the headquarters of one of the oldest and strongest Bolivian firms. Here there is a restaurant for the traveler, who after leaving Villa Bella in a launch at about 7 a. m. arrives at noon. As the Beni from here on is navigable for a long distance, small steamers with a capacity of 200 tons ply between this "port" and numerous towns and rubber estates along both its banks.

We leave Cachuela Esparanza at 2 p. m. on our new river "greyhound," and if in the judgment of the captain there is sufficient water in the stream, travel is continued throughout the night; otherwise, immediately after sundown, we tie up to a tree and swing our hammock, well inclosed in the mosquito net, alongside those of our fellow travelers. Early the following morning the trip is resumed, and after some eight hours' sail we arrive at the chief city of the Beni, Riberalta.

After leaving Manaos there is no place along the entire route that will bear comparison with Riberalta. On account of its higher location, greater attention paid to its sanitary conditions by its residents, and intelligent original planning it is a very desirable place and is considered far more healthful than any point in the entire region. The streets are wide, and the grass-covered avenues, kept as if mowed by a skillful gardener through the grazing of the cattle, give the city a very attractive appearance. A first-class hotel and several excellent restaurants are located here. Among other things in Riberalta is a well-kept plaza: a cathedral; a branch of the important Bolivian bank, the Banco de la Nacion Boliviana; a wireless-telegraph station; and an ice plant. The wireless permits of sending messages to La Paz, the main city of Bolivia, from where they can be relayed to all parts of the world, and the wonderful feature of this great invention can only be realized when one considers that immediate interviews can be held between points that are 42 days apart. Through the efforts of Col. Alberto Romero Ovaldo, the present "Delegado" or chief functionary of the entire district, many improvements are being introduced. He is at the present time considering additional wireless stations, has improved on the already excellent educational facilities, and everyone is confident that his active administration



SCENES IN BOLIVIA.

Not far from the Maderes Mountains, Bolivia, are the ruins of the ancient city of Tiwanaku. The upper picture shows one of the excavated ruins. The lower picture shows a Bolivian man, standing in a field of rubber trees, which abound in the region.

will be of great benefit to the Department of the Beni. In Riberalta there are also several newspapers that contain both foreign and local news items. A little outside of the town there is a well-equipped shipyard and machine shop, as also a fine up-to-date sawmill and wood-working plant. The population of Riberalta is estimated from 3,500 to 5,000, mostly composed of the finer class of Bolivians. These men have a wonderful knowledge of business affairs and are exceedingly modern in their methods. The foreigners are made up of Japanese, Germans, and Greeks. The first named are engaged in farming and laboring, the Germans form the chief business element, and the Greeks are engaged in the retail business. The Bolivians are chiefly interested in rubber gathering, although many of them are professional men.

Its location, natural wealth, and already advanced development, together with the gradually improving transportation facilities, are bound to make Riberalta an important center of this part of the world. There is ample room for American articles, the demand for which will remain after they are once introduced, provided that the very special handling that this particular trade requires is carefully studied. Two vital points that demand close attention are (1) goods costing \$1 in New York, without adding any profit or margin, cost \$4 in Riberalta; (2) packages after leaving New York, or any other seaport, are transferred 12 times before reaching destination. The above increase in cost is not the result of a high tariff, as in this respect Bolivia, compared with most South American countries, is very liberal. The difference comes on account of the terrific transportation costs.

There are barely a dozen American families located along the entire route outlined, whereas almost every other nation is well represented. Another noticeable fact is that while at practically every point of importance there is a consular representative of the leading nations, our country is not so generously favored with consuls or consular agents.

Lack of space prohibits any wider description of the many wonderful features of the Amazon Valley. The wealth is there, a good start has already been made toward the building of a transportation system, and in the opinion of close students of these regions only a short time remains when energetic enterprises will take hold of development on broad lines that will pay them handsome dividends.

The first American business house has just been established in the Beni, and there is no doubt but that through this medium a start will be made toward building up a demand for articles made in the United States.

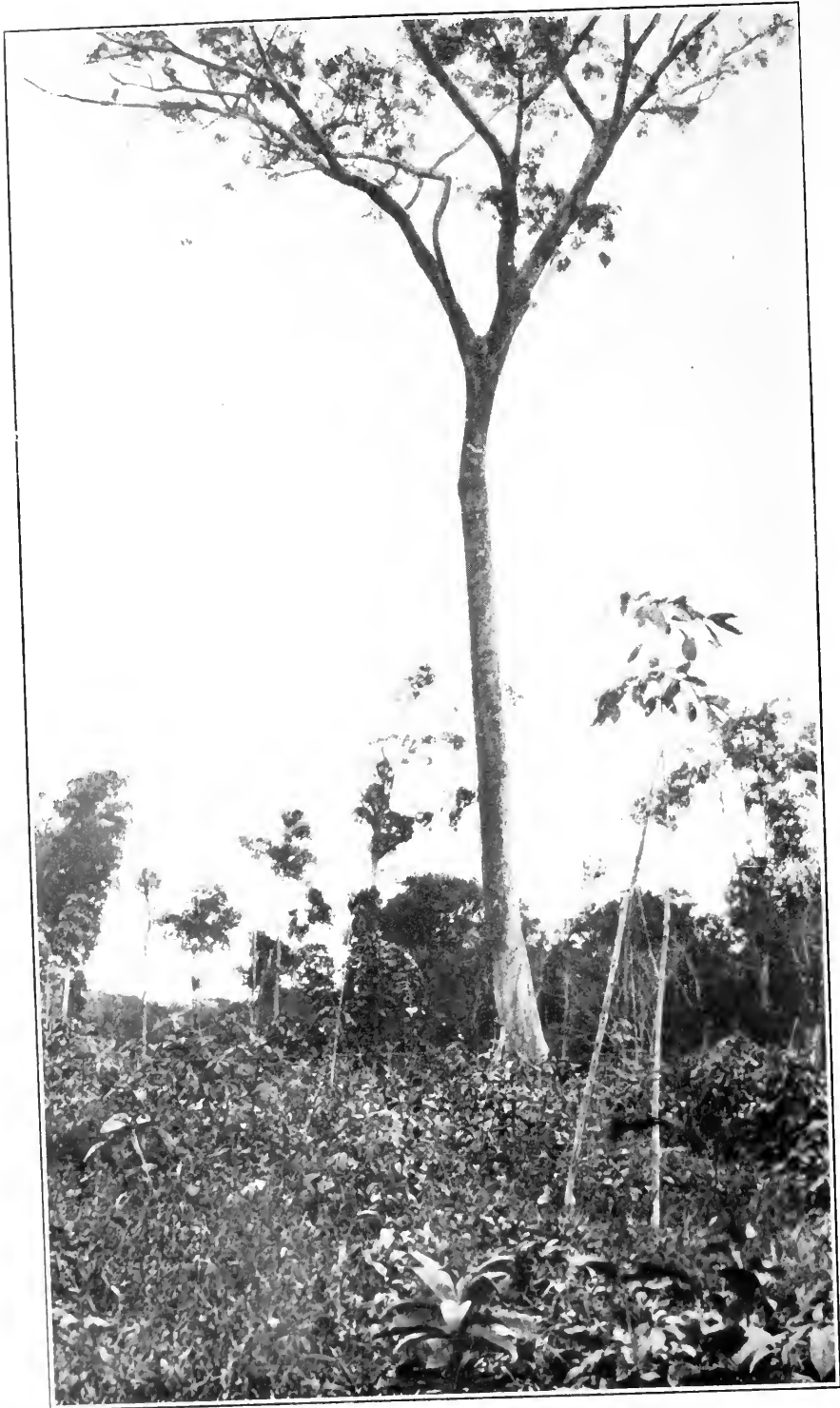
SOUTH AMERICAN COPAL

THIS is the name of a gum resin obtained from the West Indian locust or algarroba tree (*Hymenaea courbaril*). There are a number of different kinds of copals coming into the world's markets, but the bulk of them are derived from India, Africa, and the South Sea Islands. Southern Mexico, Central America, and tropical South America have so far supplied only one kind of copal, which is the product of the West Indian locust, a tree noted for its colossal size and for its remarkable longevity. This important tree flourishes throughout the tropical parts of the Western Hemisphere. It is one of the best-known tropical forest trees with an extensive distribution and a great many local designations.

In the British colonies of Jamaica and Guiana, it is called bastard locust, a name which has spread over the Dutch possessions (bastard Lokust); in French Guiana, it is better known by its old denomination *courbaril*, which Aublet used to designate the species. It is the copinol and guapinol of Mexico and Central America as far as Costa Rica, while farther South, in Panama, Colombia and Venezuela, it becomes the algarrobo, a term transferred from the carob-tree of the Old World. Lastly, it is more generally known in Brazil as Jatoba and Jutahy. The tree itself is of striking appearance and grows over a large area of the American tropics. The legume or pod has its peculiarities and its usefulness among the natives; the wood is fine grained, hard and heavy, and by no means an insignificant factor in certain local industries. It may even have some future importance for the general trade.

The gum obtained from this tree has equally as many local names, but in the trade it is known also as the South American copal or gum, West Indian copal, and algarroba, gatobe, gatchy, and gatiby gum. It is exported from Costa Rica as guapinol copal. In the American markets it is designated simply as American copal in order to distinguish it from the numerous copals from other parts of the Tropics. The gum that is collected before it has hardened is referred to as balsam and Demerara or soft animé. In Mexico the hardened gum is called *ambar del país*, because it is usually very clear and light colored.

The tree yields an immense amount of gum. If the bark is hacked the gum exudes, which is at first soft, clean, and slightly aromatic, but it soon hardens, becomes brittle, and turns yellowish in color, depending upon its degree of exposure to the elements and upon the character and age of the tree. No systematic efforts have so far been made to tap trees for the purpose of increasing the flow of this gum resin, as in the case of the chicle and balata trees. Occasionally slanting cuts are made in the trunk with the machete, from



THE WEST INDIAN ALGARROBA OR LOCUST TREE.

One of the most important trees, noted for its colossal size and remarkable longevity, is native in southern Mexico, Central and South America, and the West Indies. It is the source of what is variously known as West Indian copal, South American copal or gum, algarroba gum, etc., highly prized in the United States for the making of the finer grades of varnishes that are superior to shellac, and for other technical purposes. In the Brazilian forests there are trees of this species over 6 feet in diameter above the root collar, which are estimated to be over a thousand years old. Some authorities claim that there are a number of such trees that antedate the Christian era.



BRANCHES AND LEAVES OF WEST INDIAN LOCUST TREE

The botanical name of this remarkable tree is *Hymenoclea courbardii*. The gum is generally known as West Indian copal, or South American copal. In Mexico the hardened gum is called *Amber del país* because it is usually very clear and light colored, and is used sometimes by the Indians and others for making ornaments which closely resemble those manufactured from amber. The bulk of the gum collected for the market is that which has exuded from accidental wounds in the bark of the tree, run down the sides, and collected between the enormous buttresses at its base. Between the projecting roots the gum is sometimes covered with earth and leaf litter, and the gatherers dig it out in large quantities at times as much as a barrel of the hardened exudation being found between the roots of a single tree.

which the gum exudes freely. After the volatile turpentine-like substance has evaporated an inodorous and semitransparent rosin-like gum is left, which is collected for market. The bulk of this gum, however, exudes from accidental wounds in the bark, which runs down on the side of the tree and collects between the enormous buttresses. Between these projecting roots the resin is soon covered with earth and leaf litter. Gum gatherers in the tropical forests may be seen going from tree to tree digging down between the roots in search of the gum deposits, which occur often in rather large lumps. As much as a barrel of the hardened exudation may be found between the roots of a single tree.

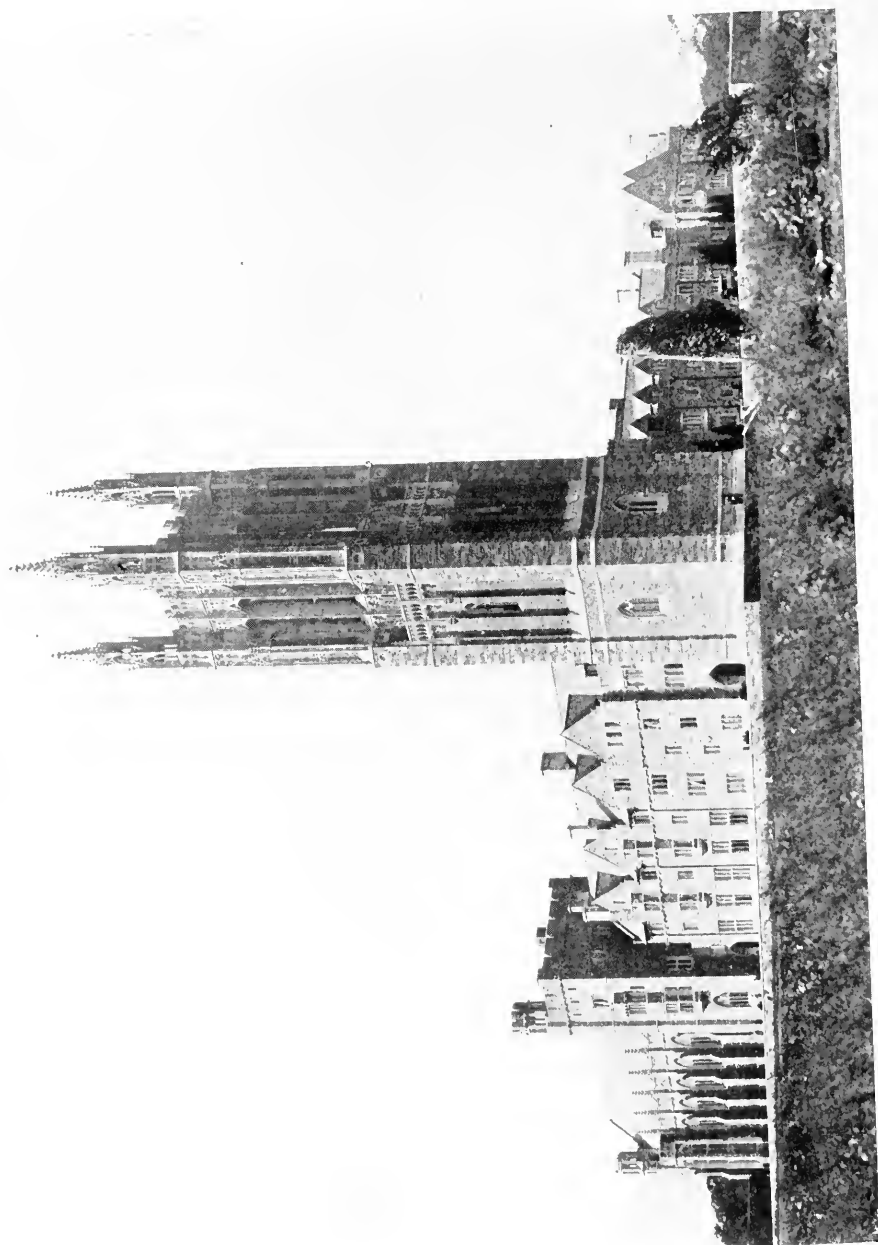
A number of the algarroba trees in the Brazilian forest are upward of 6 feet in diameter above the buttresses and these trees have been estimated to be more than 1,000 years old. The age of some of the larger trees has been placed at from 2,000 to 3,000 years, and there are some trees at present in these forests which, according to some calculations, are supposed to have been of considerable size at the commencement of the Christian era. These enormous monarchs of the forest deposit large quantities of gum during their lifetime, and a spot in which one of these trees stood for several thousand years and then completely decayed often yields from 5 to 10 barrels of the best gum, which is so highly esteemed in the United States for making the finer grades of varnishes, that are superior to shellac. The gum is in demand also locally for fumigating, for pains and aches proceeding from cold, and is used in liniments for paralytic affections, bruises, etc. It is now used rarely in medicine, but considerable quantities are used for technical purposes. The value of this product imported annually ranges from \$5,000 to \$10,000. It is valued at from \$200 to \$800 per ton in the London markets.



PAN AMERICA IN THE MAGAZINES

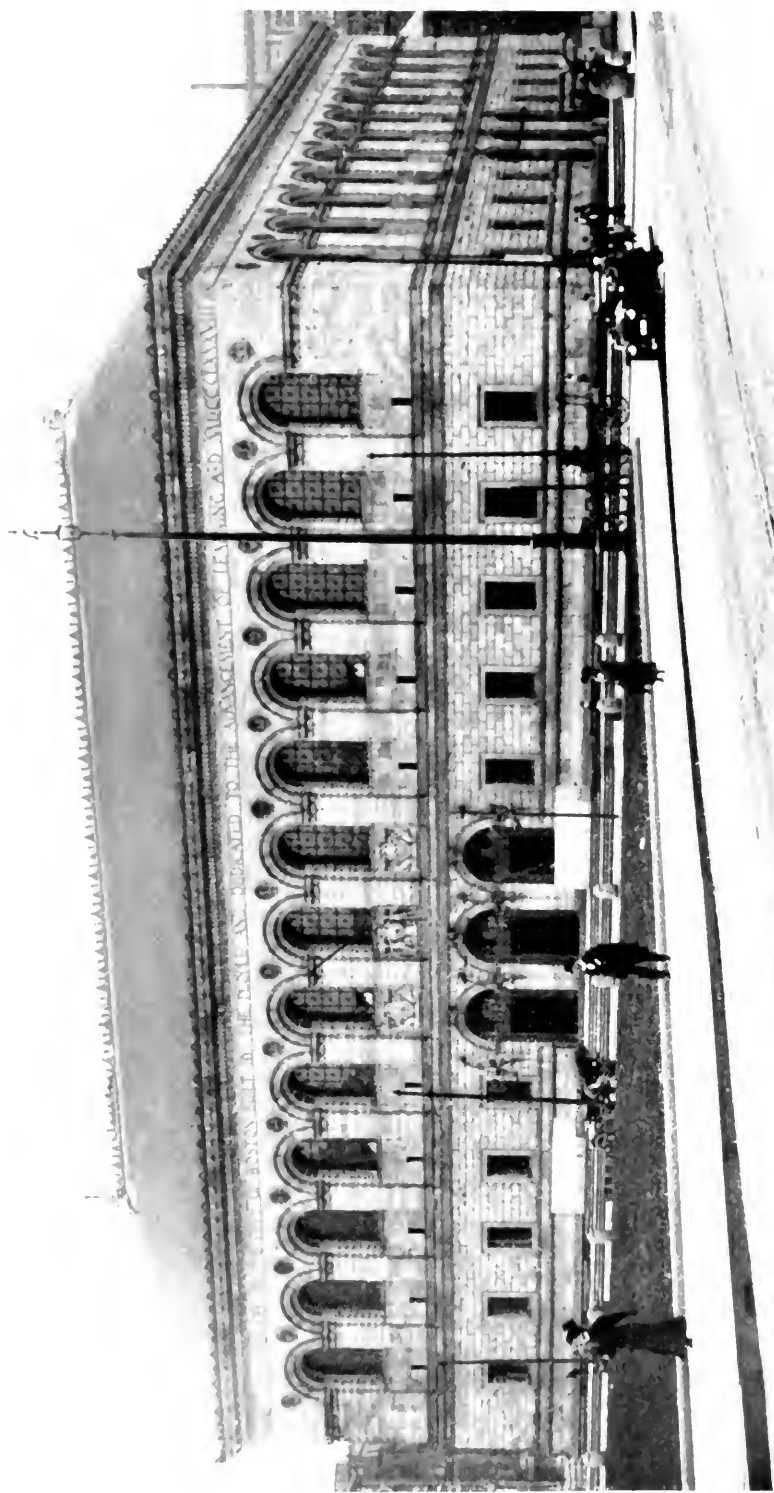
Twenty-five Years of American Architecture, by A. D. F. Hamlin, in the *Architectural Record* for July, 1916, is an account of the progress and marked improvement in architectural activities in the United States during the last quarter of a century. Mr. Hamlin divides the half century since the close of the Civil War into two periods, taking the year 1891 as marking the close of the early renaissance of modern American architecture and the beginning of the new area. He discusses the awakening of the art in 1876; the rise of great architects such as Richardson, Hunt, Post, McKim, Mead and White, Peabody and Stearns, Ware, and others; the entrance of scores of trained young men newly from Paris; the establishment of the Columbia and other schools of architecture; the opening of new art museums and schools and the expansion of the old ones, etc. All these factors led to an unprecedented enthusiasm marked by the confidence and immaturity of youth, less conscious of its deficiencies than of its opportunities. In the last 25 years, however, the profession of architecture has grown more mature and more sophisticated. There are a hundred capable architects now where there were 10 in 1891, and the ranks are beginning to be overcrowded. The actual achievement has been vastly greater than in the preceding quarter century; its average performance is vastly superior; its great masterpieces undoubtedly surpass those of that earlier time; the general public taste has notably risen to a higher level. But the earlier enthusiasm has largely evaporated. The requirements laid upon the architect have enormously increased the complexity of his task, and the struggle of competition has become intense beyond the limits of a generous and enthusiastic emulation. The commercializing of large building operations has raised new and often embarrassing problems of professional ethics and practice. The more encouraging features of the situation, however, are outlined as follows:

On the other hand, the American architect of the last 25 years has enjoyed, and enjoys to-day in increasing measure, a host of advantages denied to the men of earlier days. The facilities for study, the educational resources, have been immensely increased. The volume of architectural literature available in libraries has grown tenfold. The Society of Beaux-Arts Architects has provided every section of the country with ateliers and stimulating opportunities for self-improvement in design and draftsmanship. A remarkable advance in public taste and in standards of performance has made possible a quality of work which was out of the question 25 years ago except in a very few centers, and only in exceptional cases in these. The architect of to-day has at his disposal materials and resources both for construction and decoration which have been created within the quarter century. Competitions have been



Courtesy of the Architectural Record.

THE GRADUATE COLLEGE, PRINCETON UNIVERSITY, PRINCETON, N. J.



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systematized under regulations which have greatly reduced the scandalous practices that used to be rife. The whole profession of architecture has been raised to a higher level in the public esteem as well as in the tone and standards of its own practice. The American Institute and other organized bodies of architects have developed throughout the country an *esprit de corps*, a solidarity, a community of interest, which have more than kept pace with the increasing intensity of composition.

The two leading features in the architectural progress of the country are considered by Mr. Hamlin to have been the development of steel skeleton construction and the influence of the several great exhibitions. These two factors he deals with as follows:

The steel skeleton was really born in 1889; but the year 1891 saw it accepted as more than a mere experiment, and we may say that from that year dates its definitive adoption in American architecture. It is fair to consider it as the fourth of the great structural advances which have given architecture really new resources. The Roman vault for the first time made vastness of unincumbered space attainable. The Gothic ribbed vault and flying arch and buttress created the masonry skeleton and made possible the majestic loftiness and airy lightness of the medieval cathedral, another new architecture was created. The metallic truss, developed toward the middle of the last century, permitted a wholly new spaciousness and lightness of construction—our vast exhibition halls, train houses, and armories would have been impossible without it; again a new architecture came into existence, although hardly recognized as such. The steel skeleton, the last of the four developments, has brought into being a new loftiness and lightness of construction; it has freed architecture from the limitations of massive walls which had for ages kept it from soaring otherwise than in the frail and beautiful but practically useless form of the spire. We have not yet solved the problem of the ideal artistic treatment of the skyscraper, but we have gone a long way toward it; and meanwhile our architecture has been endowed with wholly new resources and possibilities.

If the influence of the Columbian Exhibition was less revolutionary than that of the invention of the steel skeleton, it was nevertheless very far-reaching. The 10 architects who collaborated in that remarkable enterprise, in agreeing to adopt a uniform cornice line and a general neo-classic or Renaissance style for the exteriors of the chief buildings, signed the death warrant of the still lingering Richardsonian Romanesque. The "White City" was scoffed at by many of our French visitors as nothing but "Ecole projet" architecture. In Europe the movement of protest against the academic and traditional had begun; the visitors were surprised and disappointed to find us still in the fetters of bondage they were trying to throw off. They failed to appreciate the fact that we had never yet been under this bondage; that this was the first time in our history, at least since Thomas Jefferson's modest experiment at Charlottesville, that our architects had had an opportunity to design, or our people to see, a monumental group of buildings planned as an ensemble; the first time that they had seen such buildings set in an environment of gardens and architectural and sculptural adjuncts designed to enhance the total effect. The impression it produced was extraordinary. The grandeur of scale and the intrinsic beauty of the fair alike elicited universal enthusiasm.

* * * * *

Other exhibitions since—at Omaha, Buffalo, Jamestown, St. Louis, San Francisco, San Diego—have followed the general methods of the Chicago Fair, two of them on a vaster scale, the later ones revealing more knowledge, more skill, greater resource, greater freedom and richness of treatment than their prototype. But none has exerted so potent an influence upon the national architecture, for each has had behind it a better-trained, a more knowing public taste; it has lacked the sensational effect of a new discovery, of an utterly novel achievement.



Courtesy of the Architectural Record.

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OFFICE ARCHITECT AND RECORDS

THE MASONIC TEMPLE, CHICAGO, ILL.

Another potent influence in the architectural history of the country is that of the increase in educational facilities, a feature which Mr. Hamlin treats as follows:

The growing influence of the French school, which had contributed powerfully to the architectural awakening of the eighties, reached its highest mark during the last decade of the last century. The number of Americans in the Ecole at Paris rapidly increased, and the leading offices depended upon their return for the recruiting of their draftsmen. With each year some among the older Paris-trained draftsmen emerged from these offices to practice independently. In 1891 the Society of Beaux-Arts Architects began its remarkable campaign of education by the establishment of "ateliers" and "concours" of "projets," which have since been extended into all parts of the United States. Their success has been prodigious; and despite their tendency to dwell unduly upon clever draftsmanship and "paper architecture," they have done a great service in training competent draftsmen, in instilling sound ideas of planning, and in fostering the artistic spirit. The general quality of American design and of American draftsmanship has certainly been greatly raised.

But the credit for improved design and draftsmanship does not by any means all belong to the labors of the Beaux-Arts Society. Since 1891 important architectural schools have been founded or developed in the universities of Harvard, Pennsylvania, Syracuse, Tulane, George Washington at Washington, D. C., Washington at St. Louis, Michigan, and Minnesota; in the Carnegie Technical Schools at Pittsburgh, the Armour Institute at Chicago, Rose Polytechnic at Terre Haute, Ohio State University, Alabama Technical Institute, and many others; while the older schools have been greatly strengthened and developed. Many traveling fellowships have been founded, and the American Academy at Rome has been built up into a strong institution. Countless night classes and "extension" classes have been established, and Princeton and Yale have built up departments of architecture which are excellent feeders for the more advanced professional courses in other universities. The influence of all these schools, conservative and academic in the main, but by no means narrow or superficial, has served to raise the standards of our architecture, and to bring it more and more into its proper place as a learned profession as well as an art; a profession in which science and general culture unite with imagination and trained taste to make it a worthy pursuit for men and women of high aspiration.

Mr. Hamlin gives quite a long, although by no means a complete, list of examples of representative American architecture of the last quarter century. Of the exhibitions, after enumerating the most important, he writes:

They were all scenic displays of "staff" architecture, decorations rather than durable buildings, but they all stimulated the imagination and developed the decorative resource of our architects, and for the first time in our history exerted a reflex influence on European exhibition architecture.

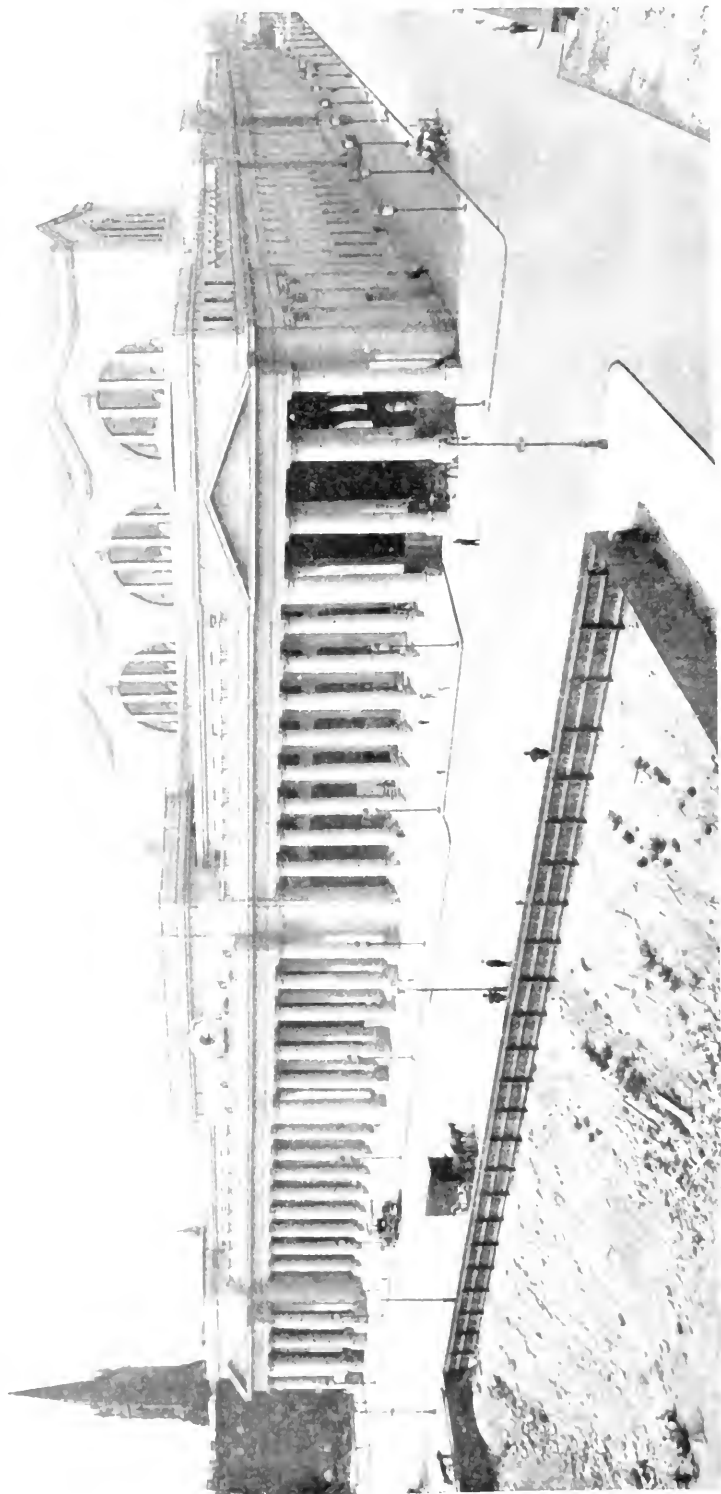
Among other prominent examples of modern American architecture he cites the following:

The Boston Public Library was completed in 1895, the Library of Congress at Washington in 1897, the Public Library of New York in 1912. With the accession of William Martin Aikin to the office of Supervising Architect of the Treasury in 1893 there began a remarkable reform in our Federal architecture, which continued under his successor, J. Knox Taylor. The customhouses, courthouses, and post offices of this régime at New York, Indianapolis, San Francisco, Cleveland, and other cities, the Senate and House offices at Washington, and a host of lesser Federal buildings,



Courtesy of the Architectural Record.

THE WOOLWORTH BUILDING, NEW YORK CITY.



THE PENNSYLVANIA RAILWAY STATION, NEW YORK CITY.

have lifted our national official architecture from pretentious inferiority to a level of high artistic merit. The great railway terminals at Washington and New York and the Northwestern at Chicago, and others of less magnitude at Pittsburgh, Baltimore, and other cities have redeemed us from the former disgrace of the old-time shabby and disreputable makeshifts. University and collegiate groups have been created that are the envy of foreign professors and scholars; Palo Alto and Berkeley in California, the University of Pennsylvania, Chicago, Columbia, Johns Hopkins, Princeton, Washington at St. Louis, Bryn Mawr, Vassar, and Sweetbrier Colleges, the College of the City of New York, and others, represent a branch of architecture which hardly had any existence before 1891. At the same time a new architecture of public-school buildings has been developed, based on scientific principles and the logical expression of plan and structure; witness the modern schools of New York, Boston, Chicago, St. Louis, and a dozen other cities. Certain types of buildings have been subjected to a process of standardization, within well-defined limits, as the result of prolonged and systematic study of their requirements; for instance, public libraries, hospitals, Y. M. C. A. buildings, office buildings, public schools. That is to say, a general consensus has been reached as to certain of their requirements and the best arrangements, proportions, and dimensions of their fundamental elements, so that all architects have profited by the combined wisdom of those who have worked out these standards. The librarians were the first to attempt such a formulation of requirements, and American library architecture now leads the world, both in the larger buildings like those already mentioned and such other important examples as the libraries of Milwaukee, Detroit, Newark, Springfield, Providence, and Manchester (N. H.), and in the smaller libraries and branches. In any American city the library is likely to be one of the handsomest buildings in town, and a creditable work intrinsically; and in any college or university the same is often true, as at Columbia, Harvard, Vassar, and many others.

The Cathedrals of the New World, the third installment of the series which appeared in the French edition of the *BULLETIN*, deals with those ecclesiastical structures to be found in Peru. The following abbreviated English version embodies the main features, and will serve to explain the accompanying illustrations.

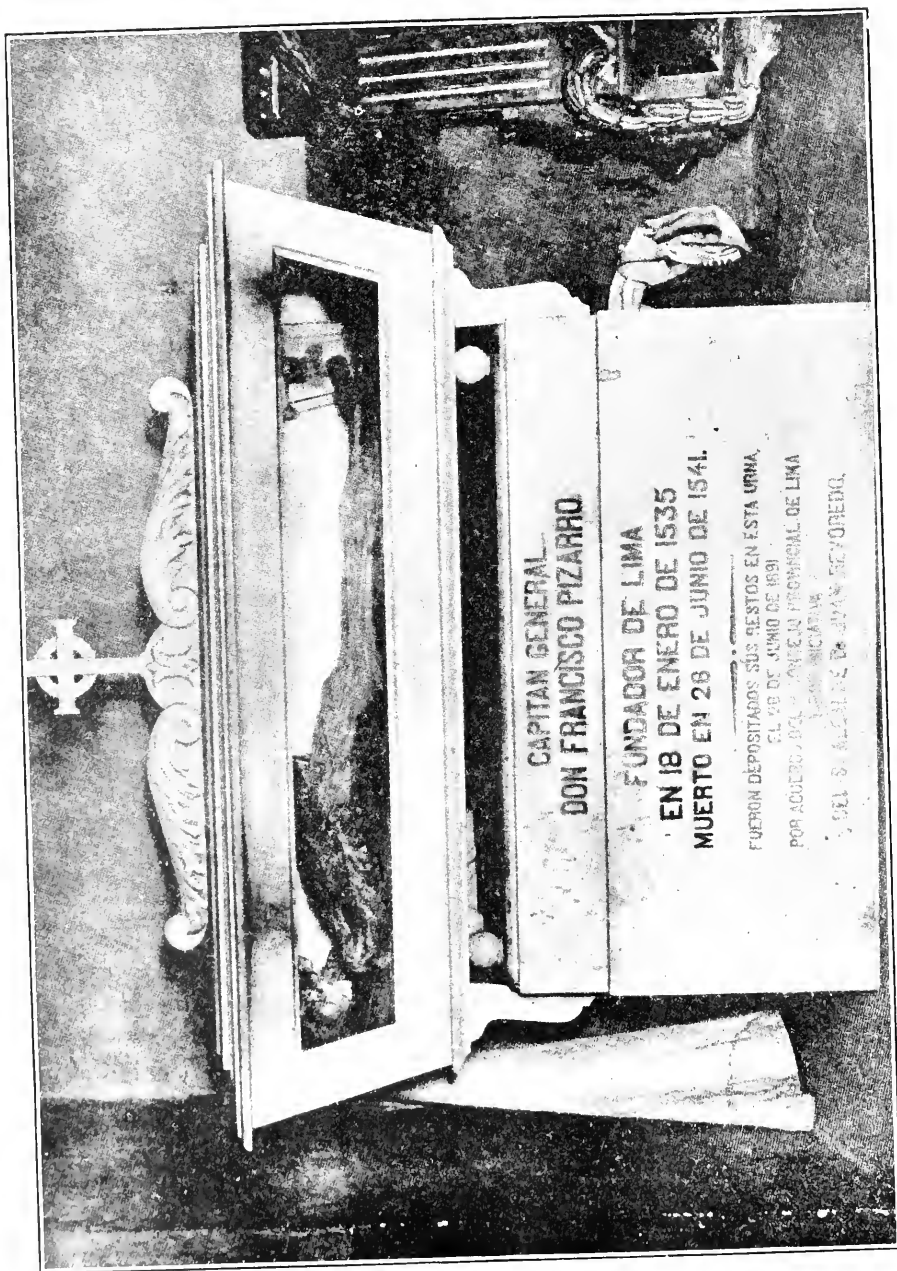
The traveler in South America who studies the various features of the history of that continent, the life of colonial times and that which followed it as the national life of the separate countries, soon discovers that there is a well-defined line of demarcation between that time when the people borrowed their artistic inspiration from the traditional sources in Europe and that later time when local influences began to be felt and when the continent developed its own artistic sense that demanded some original expression. This statement applies to the industries that were first brought over from Europe across the Atlantic; it is true of the social life and of education in all the Republics of the southern continent manifesting characteristics which are peculiarly their own; it is likewise true of municipal and governmental affairs, and finally in regard to the construction of their buildings, especially of the architecture of the ecclesiastical edifices of the diocesan capitals.

As an example of the colonial epoch in church architecture the cathedral of Lima offers a good illustration. That country has one



THE CATHEDRAL OF LIMA, PERU.

The building is of gray stone and is the largest of the old Spanish ecclesiastical structure in South America. Its facade is 480 feet in length, the most striking feature being the two massive square towers. The many columns and architectural decorations are mostly in Corinthian style.



THE REMAINS OF PIZARRO.

The body of Francisco Pizarro, the great conquistador who conquered the vast empire of the Incas, rests in a marble sarcophagus in one of the chapels of the cathedral at Lima.



CATHEDRALS OF PERU.

Upper: Choir and altar of the cathedral at Lima. Lower: The cathedral at Cuzco, the burning of whose construction dates back to 1536. It is in the style of the Spanish Renaissance and was built of stone at a tremendous cost.

archbishopric, that of Lima, and eight dependent bishoprics, viz, Arequipa, Huanuco, Chachapoyas, Ayacucho, Puno Trujillo, Cuzco, and Huaraz.

In connection with the name of Lima two characters will always be intimately associated with its historic memories: Pizarro, the intrepid conqueror, whose remains rest in the cathedral whose corner stone he laid, who founded the capital and gave it the name of La Ciudad de los Reyes (The city of the Kings); and second a young girl who renounced a life of social ease and pleasure and became renowned for her piety, a renown which resulted in her canonization by Pope Clement IX in 1671 under the name of Saint Rosa of Lima, the patron saint of the capital city as well as of all Catholic South America.

It was Pizarro who laid the plans for the imperial city, including the erection of a great metropolitan church. It was not finished and dedicated until 1540, and it was at the request of Charles V of Spain that Pope Paul III raised the see of Lima to an archbishopric. As a consequence it was determined to rebuild the edifice, and the work was started under auspicious circumstances. Owing to various interruptions, changes of plans, and other delays the building was not finished until 1625. Not long after the consecration of the cathedral, by order of the Spanish viceroy, the mortal remains of the great conquistador were transferred to the edifice and now rest in a splendid sarcophagus in one of the chapels.

In 1746 an earthquake made a mass of ruins of the city of Lima, the cathedral being among the buildings seriously damaged. In 1758 it was finally completely restored. The building is of gray stone, and is the largest of the old Spanish ecclesiastical edifices of South America. The facade is 480 feet wide, the crowning feature of the building being its two massive square towers. The many columns and architectural decorations are for the most part Corinthian in style; it has five naves, each consisting of nine arched vaults, the two aisles being formed of ten chapels. The choir and stalls are of cedar and mahogany and are ornamented with remarkably fine wood carving, while among the treasures of the church are to be found some excellent paintings, among them being a fine Murillo and one of Rembrandt's masterpieces.

Among the cathedrals of Peru that of Arequipa is one of the oldest and most interesting. The city was raised to a bishopric in 1557 and the erection of the cathedral was commenced in 1612. It was completed in due course, but in 1844 its interior was partially destroyed by fire, many of its rich treasures, paintings, and other possessions being lost. The rebuilding took 20 years, and four years after its restoration it again suffered some damage from the terrible earthquake of 1868. The structure faces the Plaza de Armas, its facade measuring 150 feet in length. It has three entrances and the



CHAPTER IV. THE CHOIR OF THE CATHEDRAL OF CORDOBA.

CHOIR OF THE CATHEDRAL OF CORDOBA.

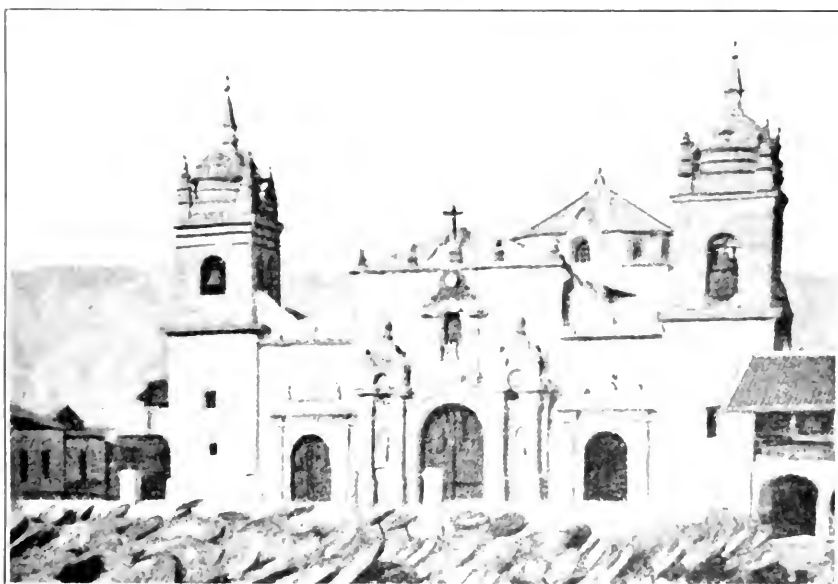
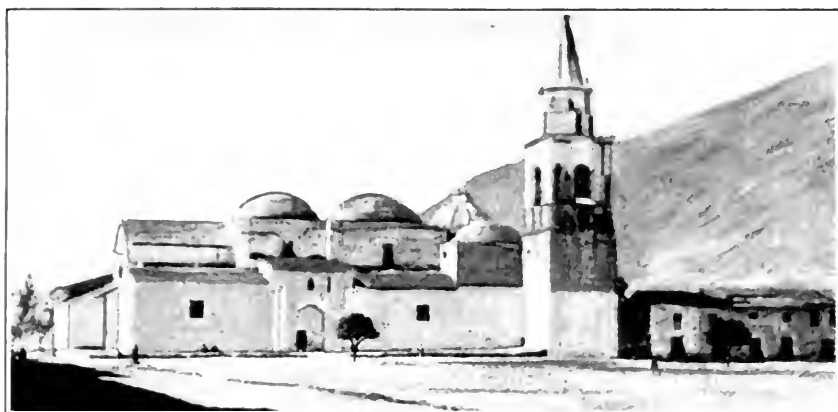
The Choir of the Cathedral of the central nave, decorated by the Moors, Cordoba, Spain, South America.



Courtesy of the Architectural Record.

THE CATHEDRAL AT AREQUIPA, PERU.

One of the largest and finest of the old Spanish cathedrals in Peru is that at Arequipa. Its construction was begun in 1625. The front here, the Plaza de Armas, its facade measuring 150 feet. The building is supported by 70 fine columns of composite Ionic and Doric style, and has three entrances.



CATHEDRALS OF PERU

Top, The cathedral of Huancayo. Center, The cathedral of Ayacucho. Bottom, The cathedral of Chachapoya.

building is supported by 70 large columns of composite Ionic and Doric style, lending it a massive and splendid appearance. The interior is divided into three naves, separated by superb columns that support the great arches above with harmonious effect. The main altar is of marble, and the pulpit of beautifully carved wood.

Huanuco, capital of the Department of the same name, was made an episcopal see in 1865. The once large population of the city has dwindled since the discovery of the famous copper mines at Cerro de Pasco until now there are perhaps about 8,000 left. The cathedral, which fronts the plaza, is chiefly remarkable for its solid construction, having stone arches and a high and pointed steeple. This is accounted for by the fact that severe earthquakes have never visited this immediate section.

Chachapoyas has been a bishopric since 1843. The cathedral is a simple one-story structure of brick, having two square towers to relieve the plainness of the façade.

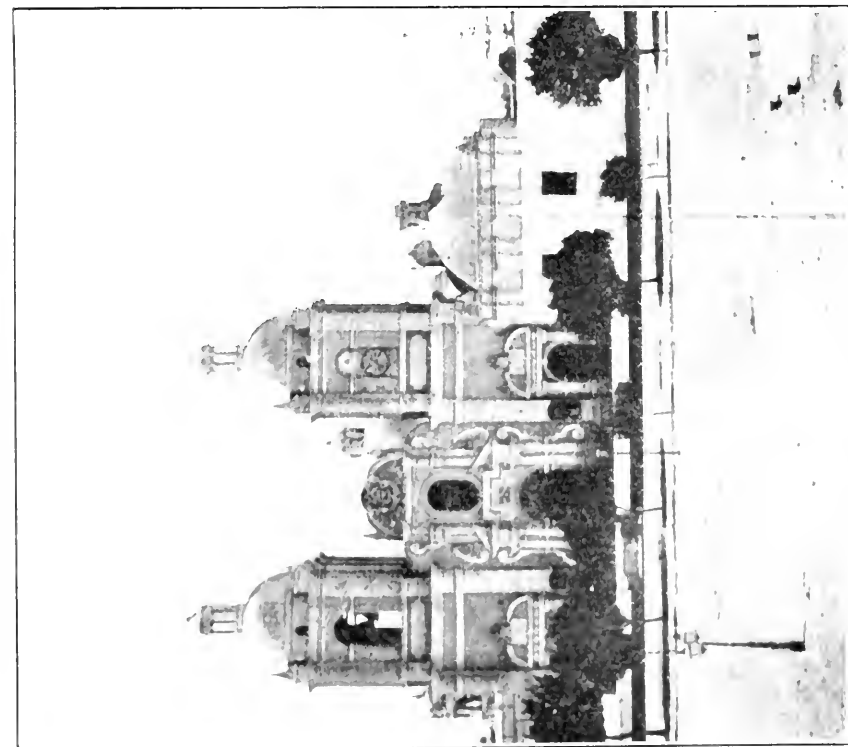
Ayacucho, a bishopric since 1609, has a cathedral of more pretentious architecture built of volcanic rock from the Picota Mountains.

Puno, raised to a bishopric in 1861, has a cathedral which is well constructed and quite ornate in architectural embellishment. The space of the façade between the two towers is highly ornamented and has a number of fine statues of saints placed in open niches as an unusual feature.

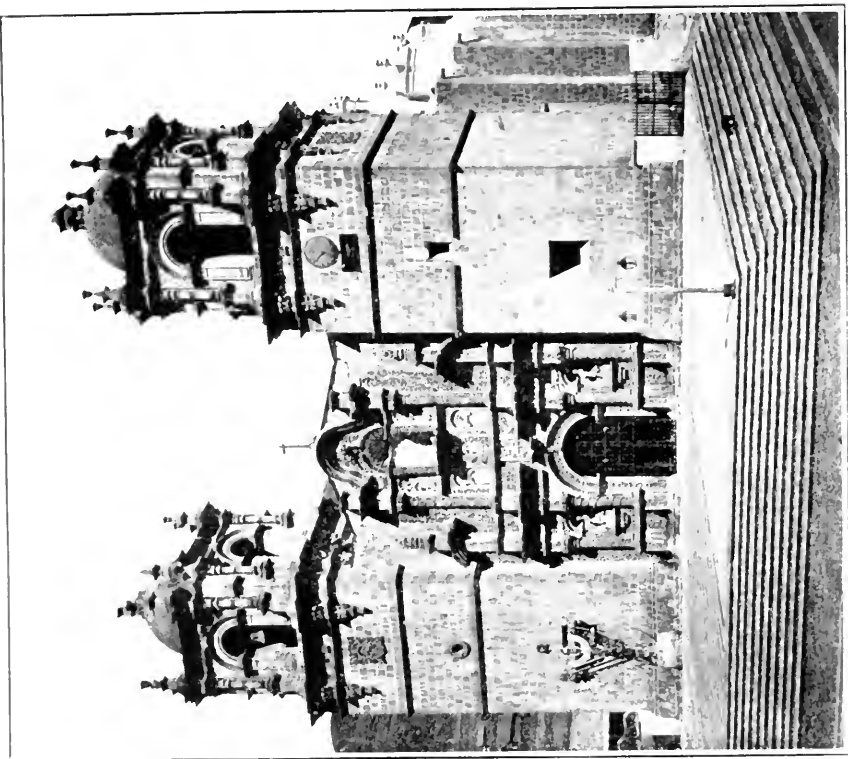
Trujillo, an episcopal see since 1577, has a large and substantial cathedral whose architectural features are two large towers with a cupola over the center of the building. Many fine paintings decorate the sacristy. The general plan of the building is similar to that of the cathedral of Lima, but on a smaller scale.

Cuzco, the ancient capital of the Incas, was made a bishopric as early as 1536. Construction of the cathedral was begun the same year, but for one reason and another the building was not completed until 90 years thereafter. It is in the style of the Spanish renaissance and was built of stone at a tremendous cost. The interior consists of three naves separated by stone pillars which support the high vaulted arches. In the central nave is the choir, the carving of which is superb. In front of it stands the high altar, covered with silver. Two fine organs fill the church with the music of their rich tones on Sundays and feast days. Among the most valuable of its treasures is a painting, "El Señor de la Agonia," said to be one of Van Dyck's masterpieces. In the sacristy are portraits of the popes and of all the bishops of Cuzco. One of the most precious possessions of the cathedral is the monstrance, which is ornamented with pearls, diamonds, emeralds, rubies, and other precious stones of great value.

Huaraz was made an episcopal see in 1899 and the erection of a new cathedral is being contemplated.



THE CATHEDRAL OF TRUJILLO, PERU



THE CATHEDRAL OF PUNO, PERU

Stories of South American Birds, by George K. Cherrie, in a recent number of *The American Museum Journal*, is an account of the nesting peculiarities and habits of several varieties of these interesting denizens of the forests of the northern part of that continent. The ingenuity which some of these birds exercise in safeguarding their eggs from their enemies is surprising. Mr. Cherrie describes quite a number of such instances, some of the most interesting being brought out in the following excerpts from the article:

In my long experience as a natural history collector, particularly in South America, I have derived the greatest pleasure from studying the nesting habits of the birds. In addition to the pleasure obtained, a careful study of nests, eggs, and habits of the adult birds at nesting time has enabled me to learn much regarding relationships of various species. There is much also to be learned about bird psychology as a result of such study.

Apropos of the latter, I have frequently been asked if I thought individual birds showed peculiar tastes, in any way differing from other birds of the same species, and in reply I have sometimes told of my experience with the broad-billed yellow fly-catcher of the genus *Rhynchoecylus*, which is very abundant along the middle Orinoco. Near my camp, in the neighborhood of Caicara, I found many nests of these birds; in one case three of them within a radius of 50 yards. One of these three was composed entirely of small, threadlike vegetable fibers of a shiny black color. Another was of dark gray-brown fibers, while the third was composed of very fine grasses, pale brownish-gray in color. There is little doubt that the black vegetable fibers were just as abundant and as easily accessible to the two other pairs as to the birds that employed them in the construction of their nest; so also were the gray fibers as accessible to the birds using the black ones. If it was not individual taste that induced the birds to employ the different colored fibers, I do not know what it was.

As showing how light can be thrown on the relationships of birds the following instance is of interest: Of the nests of six species of spinetail (*Synallaxis*) that I have found, five were of the usual form and materials; extraordinary structures about three-fourths of a yard long, composed of dry, usually thorny twigs, skillfully woven into a cylindrical mass, with a long tubular entrance to the nest cavity, which occupies the lower half of the cylindrical nest body. This nest might be described as retort shaped. It is sometimes built within a few inches of the ground, but may be several yards above it. The nest proper is supported ordinarily between the twigs or small branches of the limb, while the entrance to the nest lies along the main branch and is held up by it. As a rule, these thorny nests are not concealed in any way by surrounding foliage or bushes, the birds apparently depending upon the sharp thorns of which the nest is composed for protection; also, the nest proper is concealed by the great mass of twigs on the top of it. These twigs are laid longitudinally, so as to form a kind of thatched roof, thus protecting the nest from rain, as it is usually occupied during the height of the rainy season.

The nest cavity is lined with soft, dry leaves and wood fiber, as a foundation for an inner nest lining of gray lichens. The nests of five of the species of spinetail were all of this general type, but that of the sixth species, the fox-red spinetail, was entirely different. I had been seeking the nest of this species for weeks, and some time prior to my discovery of it I found a pair of the birds hovering about what appeared to me to be a mass of drift grass that had lodged between the forks at the top of a slender sapling. At that time it was about 2 meters above the surface of the river. (The sapling stood in a flooded area perhaps 100 meters from the river shore.) * * *



1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

When discovered the interior was pierced by several tunnels. One of these had been closed at one end with leaves and vegetable fibers, and a large nest cavity had been excavated at about its middle. Some dry leaves and wood fiber were there as a nest lining and, as an inner nest lining, the same kind of gray lichens as in the nests of the other five species of spintail. Outwardly the nest was a mere bunch of drift grass; the site chosen and the materials employed were wholly different from those used by the allied species. In the use of the gray lichens for an inner nest lining, however, we find a trait common to all.

The question naturally arises. "Is the use of this gray lichen for the inner lining of the nest cavity a custom descended from distant common ancestors?"

There is perhaps no group of birds in all the Tropics that will more richly repay careful study of its nesting habits than the flycatchers. There is certainly no group in which occurs a greater variety of nests. Some species, for instance, build tiny, frail, lichen-covered nests, as dainty as any of those built by the humming birds. Some weave structures that might well serve as a model for the African weaver birds. Certain flycatchers, on the other hand, build bulky rough nests that remind one of the work of jays or crows. Some members of the group are secretive, constructing their nests in the most sheltered and retired spots in the thick forest, hidden among bunches of leaves, or otherwise concealed. A few nest near the ground; others place their nests high up in the tree tops, while in the open plains districts of the great river basins there are perhaps few objects more prominent in the landscape than the great grass nests of the yellow-breasted flycatchers in the tops of the low trees.

One of the most interesting South American nests I have found is that of the two-banded *Bucco* or puff bird. This species has the extraordinary habit of excavating into occupied nests of the common termite, or white ant, of the region (whose nests are so conspicuous in many of the forest trees). The *Bucco* usually makes the entrance to its nest in the middle of the side of the termite nest, the tunnel passing backward and upward for nearly the entire diameter of the termite dwelling, and ending in a slightly enlarged spherical chamber about 15 centimeters in diameter, the entrance tunnel being only about one half that width. No nesting material is carried in, the eggs being deposited on the débris at the bottom of the nest cavity. It has always been a mystery to me how the birds were able to carry on their work of excavation, because termites, at the slightest disturbance, swarm out in countless thousands, and I can not conceive how any living object could endure being covered by these viciously biting little insects. Another problem I have not been able to solve is how the young birds, particularly immediately after being hatched, could possibly survive.

A species of puff bird whose nest I had long sought was discovered finally quite by accident. One day, as I was trying to protect myself from a sudden shower that had overtaken me in the forest, and was crowding in among the thick branches of a low tree, I heard a sound that seemed to come from the ground beside me—the cheep of a young bird. I looked about on all sides, but could not discover anything. The sound was repeated. It seemed nearer to my feet than before, but nothing was in sight. My attention, however, was presently fixed on what appeared to be a small pile of brush that had been brought together by a current of wind. Closer examination revealed the fact that there was an entrance beneath this pile of brush on one side, where the ground seemed to have been swept clean by some animal entering and leaving. With a movement of my foot I pushed the brush aside, and was surprised to find beneath it a good-sized hole leading down into the ground. I had no idea what the occupant might be, but secured a long stick with a fork on the end of it. I punched this into the hole to discover whether there was a tenant, and was surprised to hear a bird's sharp squeak as a result of my investigation. A few twists of the stick in my hand and I drew it out with a bird attached to the end, the feathers having become entangled about the small fork. It was a surprise to find a bird at all, but it was a greater surprise to find the bird a puff bird.

Whether this nest cavity, which was about 5 feet in depth, had been excavated by the puff birds I do not know, as this is the only nest I have ever found of the species; but if the puff bird did construct its own nest cavity, the earth that was removed was carried some distance away, leaving no sign of it about the entrance. This, however, is perhaps not surprising, for the swallowling, another relative of the puff birds, is known to excavate its own nest cavity, digging down sometimes for a couple of feet in the open level prairies, and while doubtless a large amount of dirt and sand are carried out, no accumulation of such material is ever found about the entrance. There is no doubt that the pile of brush over the entrance to the red-billed puff bird's nest had been placed there by the birds themselves. It was a fine example of how birds sometimes build structures, either to hide their nests or to protect themselves.

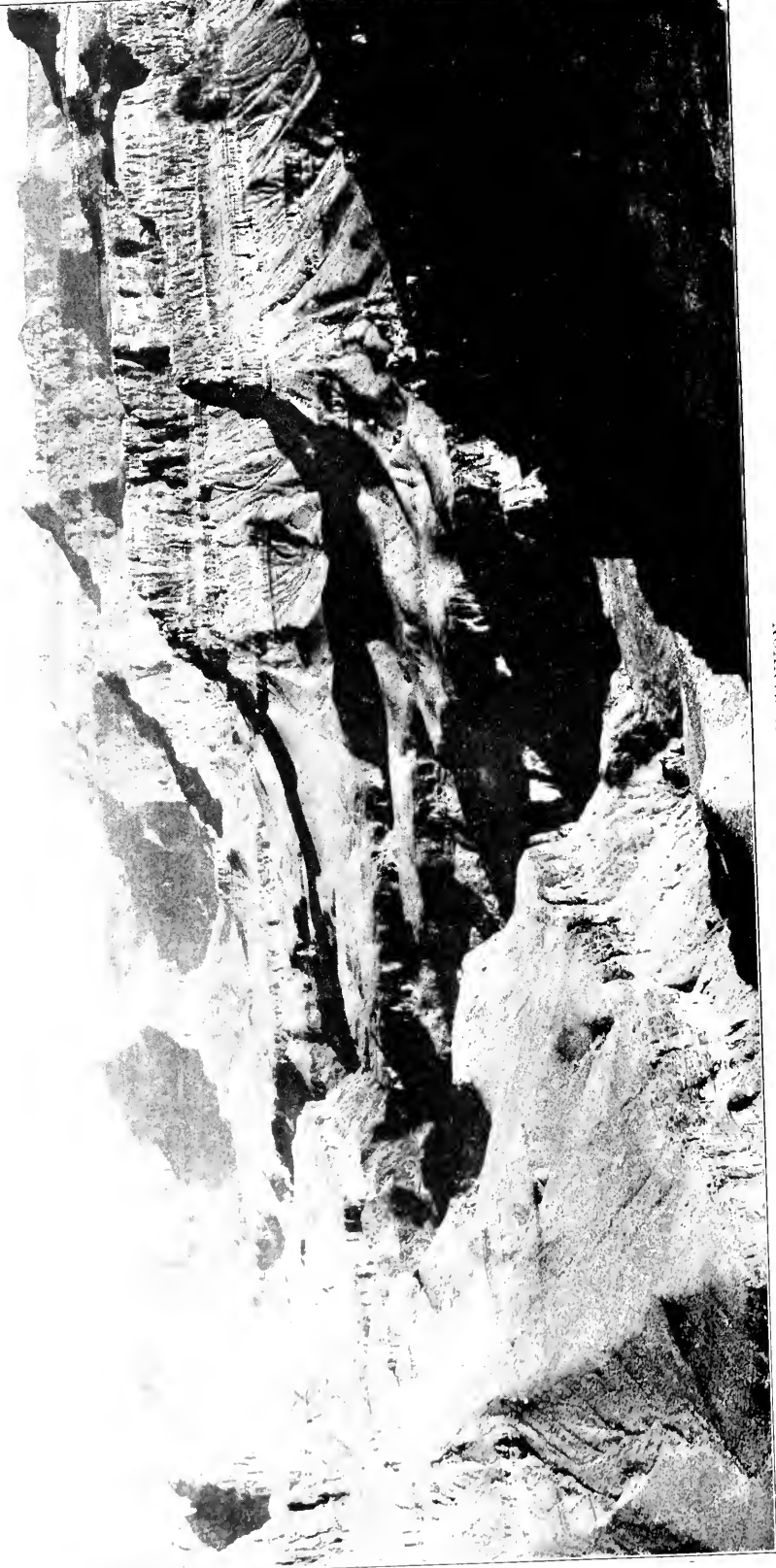
The orioles and hangnests have some very interesting and curious nesting habits. For instance, there is one form of white-billed hangnest that, I believe, always constructs its nest (or nests, as this species builds in colonies) in the immediate neighborhood of, or surrounding, the nest of some species of wasp. Year after year these colonies increase in size as the wasp nest increases in size, and if through any accident the wasp nest is destroyed or abandoned, within a year or two that locality will be abandoned by the hangnests also. I remember a case in which a colony of these birds nested in one place for 10 consecutive years. At the end of that time I cut the branch that supported the wasp nest, thus destroying the wasp colony. Three years later, when I visited the locality, there were not more than six pairs of birds in the colony that had previously been tenanted by at least 100 birds.

The orioles and hangnests are not the only species of birds that seem to derive protection, or company, from neighborliness with the wasps. Very often I have found nests of tanagers, and also some of the smaller flycatchers, near those of the wasp. Apparently there is never any misunderstanding between the respective tenants of the different colonies, but there is little doubt that should a monkey, for instance, attempt to get into a nest of the colony of hangnests, it would be very quickly driven away by the insects.

An instance of a similar protection occurs among the small flat-billed flycatchers of the genus *Todirostrum*, which frequently suspend their nests at the ends of twigs or branches inhabited by some of the vicious species of stinging or biting ants. These no doubt furnish protection from any of the bird's enemies that might attempt to creep down the branches, and I have frequently had my hands severely stung by the small irate tenants of such branches.

The Grand Canyon is the second of the series of articles on the national parks of the United States now running in the Spanish edition of the BULLETIN. To those of our readers who have never visited this most marvelous of nature's scenic wonders the following English version may be of interest:

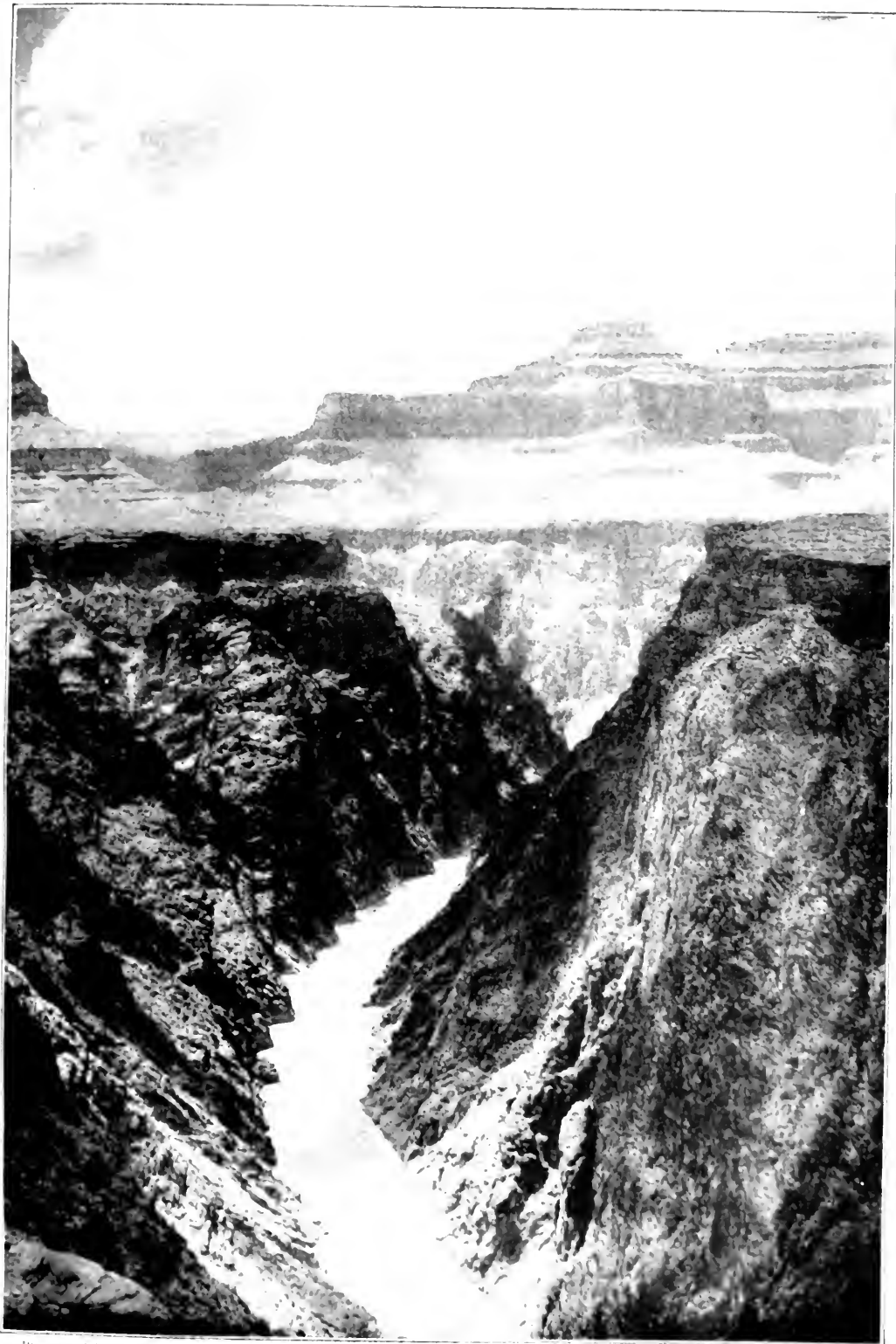
To the sightseer and lover of the tremendous and fearful in nature there are few sights which can rival the wondrous and gorgeous scenes of the Grand Canyon of the Colorado River in the State of Arizona. To the geologist the canyon offers an ever-increasing and endless field for study. Its mysteries are many and within its walls it contains deposits that belong to almost every known geological age. "More mysterious in its depth than the Himalayas in their height, the Grand Canyon remains not the eighth, but the first, wonder of the world," writes one tourist; "there is nothing like it."



VIEW OF THE GRAND CANYON.

Copyright by Fred Harvey.

"A gigantic statement for even nature to make all in one mighty stone word. Wildness so Godful, cosmic, primeval bestows a new sense of earth's beauty and size." (John Muir.)



Photographed by George B. Jones

THE GRANITE GORGE

Composed of granite rock. The gorge is a deep, narrow, and rugged chasm, formed by the upper and lower granite layers. The upper layer has broken it down. Near the top of the gorge, the granite is found in the granite gorge.



Photograph by H. T. Cowling.

HERMIT CAMP AT THE FOOT OF ONE OF THE LOFTY MONUMENTS.

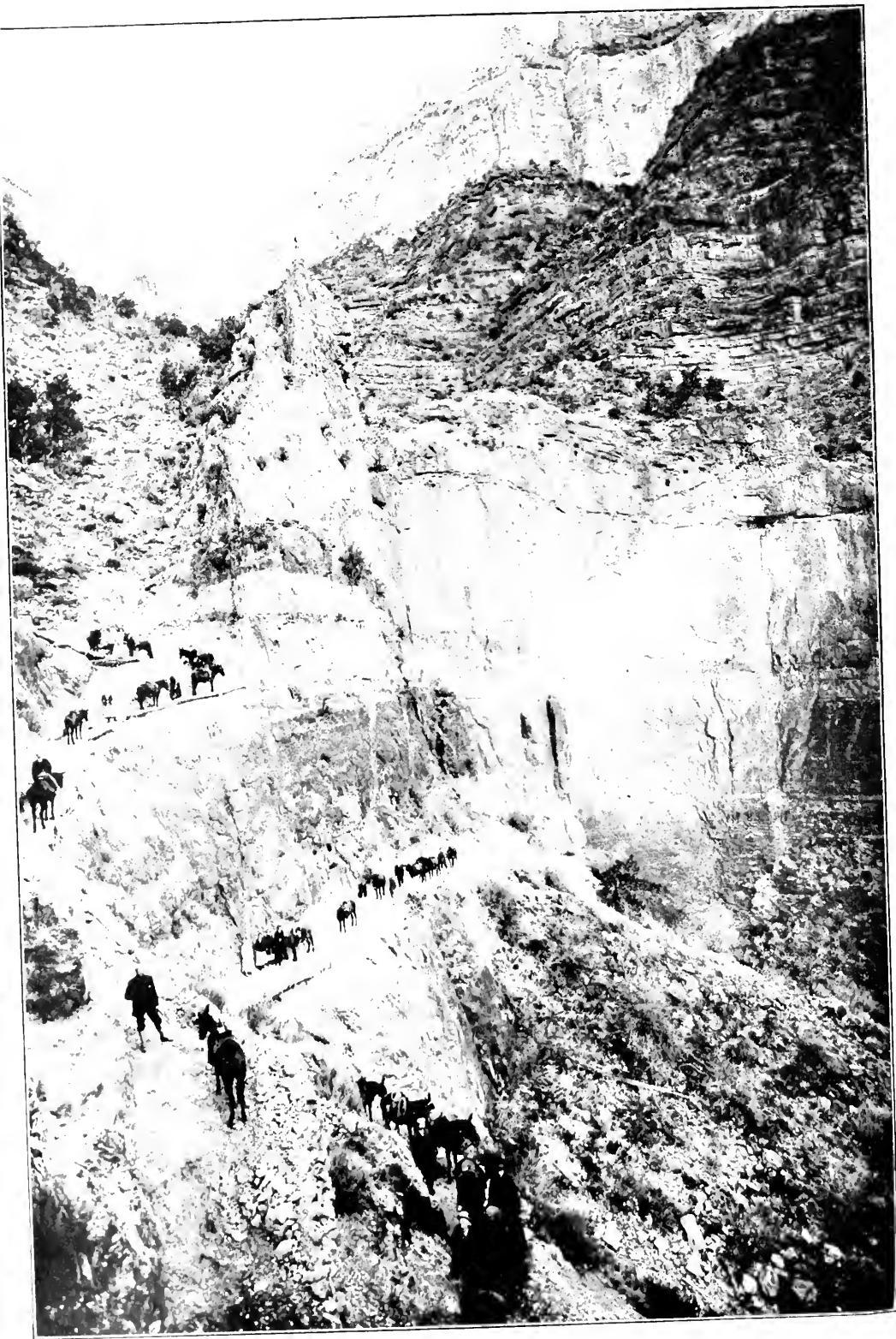
The camp at this point has been greatly enlarged since this picture was taken several years ago. Cliff formations of this character and towering hundreds of feet in the air abound in this region.

Even the most superficial description of this enormous spectacle may not be put in words. The wanderer upon the rim overlooks a thousand square miles of pyramids and minarets carved from the painted depths. Many miles away and more than a mile below the level of his feet he sees a tiny silver thread which he knows is the giant Colorado. This river is formed by the confluence of the Grand and the Green Rivers. Together they gather the waters of 300,000 square miles. Their many canyons reach this magnificent climax in northern Arizona. In describing the scenic effects at sunset and moonrise, a writer has said, "It is great but not beautiful. The lines are chaotic, disturbing—but wait! The clouds and the sunset, the moonrise and the storm will transform it into a splendor no mountain range can surpass. Peaks will shift and glow, walls darken, crags take fire, and gray-green mesas, dimly seen, take on the gleam of opalescent lakes of mountain water."

The spectacle awes and inspires silence. At first you can not comprehend it. There is no measure, nothing which the eye can grasp nor the mind fathom. It may be hours before you can even slightly adjust yourself to the titanic spectacle, before it ceases to be utter chaos; and not until then do you begin to exclaim in rapture. With dawning appreciation comes growing wonder, and positive comprehension lies always just beyond reach.

Romantic Indian legends surround the canyon. The Indians believed it the road to Heaven. A great chief mourned the death of his wife. To him came the god Ta-vwoats and offered to prove that his wife was in a happier land by taking him there to look upon her happiness. Ta-vwoats then made a trail through the protecting mountains and led the chief to the happy land. Thus was created the canyon gorge of the Colorado. On their return, lest the unworthy should find this happy land, Ta-vwoats rolled through the trail a wild, surging river, calling into existence the Colorado.

One of the most stirring adventures in the history of American exploration took place at the Grand Canyon. For hundreds of miles the Colorado and its tributaries form a network of mighty chasms which few had ventured even to enter. Of the Grand Canyon, deepest and hugest of all, tales were current of whirlpools, of hundreds of miles of underground passages, and of giant falls whose roaring music could be heard on distant mountain summits. The Indians feared it. The hardest frontiersmen dared not tempt it. It remained for a geologist and a school-teacher, a one-armed veteran of the Civil War, John Wesley Powell, afterward Director of the United States Geological Survey, to dare and to accomplish. This was in 1869, and Powell, accompanied by nine men with four boats, succeeded in proving that there were no whirlpools that were impassable and that there were no underground passages nor cata-



THE CELEBRATED JACOB'S LADDER ON THE BRIGHT ANGEL TRAIL.
The photograph shows how broad and safe are the canyon trails. There is no danger in the descent.



OF THE MIGHTY RIVERS OF THE



AND THE RIVERS OF THE

Within the canyon of the Colorado River, the great



Photograph by E. A. Lathe.

THE PROFOUND ABYSS.

facts. But the trip was hazardous in the extreme. The adventurers faced the unknown at every bend, daily, sometimes several times daily, embarking upon swift rapids without guessing upon what rocks or in what great falls they might terminate.

One of the most vivid and effective descriptions of the Grand Canyon is that by John Burroughs, the naturalist, poet, and author. His great love of nature led him to devote his literary talents to writing in a charming and popular style of nature's beauties. In a contribution to *Century Magazine*, on The Grand Canyon, he wrote in part as follows:

In making the journey to the great Southwest—Colorado, New Mexico, Arizona—if one does not know his geology, he is pretty sure to wish he did, there is so much geology scattered over all these southwestern landscapes crying aloud to be read. * * * Not being able to read it at all, or not taking any interest in it, is like going to Rome, or Egypt or Jerusalem, knowing nothing of the history of those lands.

Erosion, erosion—one sees in the West as never before that the world is shaped by erosion. There are probably few or no landscapes in any part of the country from which thousands of feet of rocky strata have not been removed by the slow action of rain, the frost, the wind; but on our Atlantic seaboard the evidences of it are not patent. In the East, the earth's wounds are virtually all healed, but in the West they are yet raw and gaping, if not bleeding. Then there is so much color in the western landscape, so many of the warm tints of life, that this fact seems to emphasize their newness, as if they had not yet had time to pale or fade to an ashen gray, under the effects of time, as have our older formations. Indeed, the rocks of the southwestern region are like volumes of colored plates; not until the books are opened do we realize the splendor of the hues they hold.

Hence it is that when one reaches the Grand Canyon of the Colorado, if he has kept his eyes and mind open, he is prepared to see striking and unusual things. But he can not be fully prepared for just what he does see, no matter how many pictures of it he may have seen, or how many descriptions of it he may have read.

* * * Words do not come readily to one's lips, or gestures to one's body, in the presence of such a scene. * * * To be still on such an occasion is the easiest thing in the world, and to feel the surge of solemn and reverential emotions is equally easy—is, indeed, almost inevitable. The immensity of the scene, its tranquillity, its order, its ~~size~~ new beauty, and the monumental character of its many forms—all these tend to beget in the beholder an attitude of silent wonder and solemn admiration.

Three features of the canyon strike one at once—its unparalleled magnitude, its architectural forms and suggestions, and its opulence of color effects—a chasm nearly a mile deep and from 10 to 20 miles wide, in which Niagara would be only as a picture upon your walls, in which the pyramids would appear only like large tents and in which the largest building upon the earth would dwindle to insignificant proportions. There are amphitheatres and mighty aisles 8 miles long, 3 or 4 miles wide, and three or four thousand feet deep; there are room-like spaces 800 feet high, there are well-defined alcoves with openings a mile wide; there are niches 600 feet high overhung by arched lintels; there are pinnacles and rude statues from 100 to 200 feet high. Here I am running at once into references to the architectural features and suggestions of the canyon, which must play a prominent part in all faithful attempts to describe it. There are huge, truncated towers, vast, horizontal moldings, there are the semblance of balustrades on the summit of a noble façade. In one of the immense halls we saw, on an elevated platform, the outlines of three enormous chairs 50 feet or more high,



SUNSET FROM PLATEAU

Pool, well, often and glow, walls darken, trees take fire, and gray.



1. GRAND CANYON

dimly seen take in the form of a small, dark, horizontal line.

and behind and above them the suggestion of three more chairs in partial ruin. Indeed, there is an opulence of architectural and monumental forms in this divine abyss such as one has never before dreamed of seeing wrought out by the blind forces of nature. These forces have here foreshadowed all the noblest architecture of the world. Many of the vast carved and ornamental masses which diversify the canyon have been fitly named temples, as Shiva's temple, a mile high, carved out of the red carboniferous limestone, and remarkably symmetrical in its outlines. Near it is the temple of Isis, the temple of Osiris, the Buddha temple, the Horus temple, and the Pyramid of Cheops. Farther to the east is the Diva temple, the Brahma temple, the temple of Zoroaster, and the tomb of Odin. Indeed, everywhere there are suggestions of temples and tombs, pagodas and pyramids, on a scale that no work of human hands can rival. * * * With the wealth of form goes a wealth of color. Never, I venture to say, were reds and browns and grays and vermilions more appealing to the eye than they are as they softly glow in this great canyon. The color scheme runs from the dark, sombre hue of the gneiss at the bottom, up through the yellowish brown of the Cambrian layers, and on up through seven or eight broad bands of varying tints of red and vermilion, to the broad yellowish-gray at the top.

* * * The geologists are agreed that the canyon is only of yesterday in geologic time—the middle Tertiary—and yet behold the duration of that yesterday as here revealed, probably a million years or more. We can no more form any conception of such time than we can of the size of the sun or of the distance of the fixed stars.

The forces that did all this vast delving and sculpturing—the air, the rains, the frost—are as active now as they ever were; but their activity is a kind of slumbering that rarely makes a sign. Only at long intervals is the silence of any part of the profound abyss broken by the fall of loosened rocks or sliding talus. We ourselves saw where a huge splinter of rock had recently dropped from the face of the cliff. In time these loosened masses disappear, as if they melted like ice.

"The Patiño Tin Mines, Bolivia," is the title of the leading article in the *Engineering and Mining Journal* (New York) for September 9, 1916, contributed by Benjamin L. Miller and Joseph T. Singewald, jr. As implied by the title, the authors deal chiefly with the Patiño properties and their development, and since these may be taken as typical of the most advanced phase of the tin mining industry in Bolivia the salient features of the account, omitting the more technical details, are reproduced in the following excerpts:

The history of mining is replete with stories of spectacular discoveries and suddenly enriched miners. In almost every country one finds wealthy families whose fortunes can be traced back to some remarkable mines. In some instances these fortunes have been acquired through good luck entirely, but in most cases some men possessed greater foresight than others and were willing to stake all they possessed on their beliefs. To the latter class belongs Simon I. Patiño, the tin king of Bolivia. From an ordinary day laborer in the mines in a few years he became a multimillionaire, the wealthiest man in Bolivia; and his entire fortune is due to his conviction that tin ore could be profitably mined in Bolivia.

The world had come to look upon tin as a product in which Cornwall, the Malay Peninsula and adjoining islands, and Australia were almost the sole sources of supply, and thus the tin ore encountered in Bolivian silver mines was ignored and discarded as waste. Patiño, however, realized the possibilities of these Bolivian ores. He secured options on numerous mines and old dumps rich in cassiterite ore, and through persistence was able to obtain the necessary capital to prove his contention. To him Bolivia owes much, as tin mining now occupies first place in the mining industry of the



VIEW OF THE CITY OF UNCLIA, BOLIVIA.

It is estimated that the population of Unclia is about 8,000 people, that the two greatest of Bolivian tin mines are located, La Salvadora, the mine owned by Señor Panto and which contributes 25 per cent of the annual total output of tin of the whole country, and Lallagua, owned and operated by the Chilean Compañia Estantera de Chile.

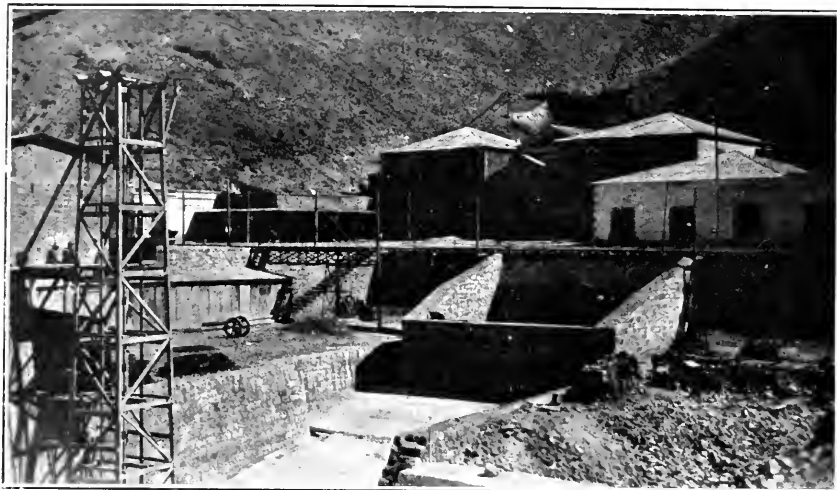


Photo by B. L. Miller.

THE PATIÑO TIN MINES OF BOLIVIA.

Upper. Part of the mill property and residence of Señor Simon I. Patiño at Uncia. Lower: Homes of the miners who work the Patiño tin mines at Uncia.

country, followed by copper, bismuth, and silver; 36,324 tons of tin Larilla, carrying from 60 to 65 per cent Sn, was exported during 1915. One of the Patiño mines, the Salvadora at Uncía, contributed more than 25 per cent of the total, according to figures at hand, and continues to hold the record as Bolivia's premier tin mine.

Señor Patiño has not only enriched himself through his profits in tin mining, but by his support of various enterprises has done so much for the development of his country that he well deserves the gratitude he receives from the Bolivians. He has spent most of his time in Europe in recent years, leaving his mines in charge of Maximo Nava, who unquestionably is one of the ablest mining men that Bolivia has produced. Patiño's principal mines are located at Uncía and Huanuni.

La Salvadora and Llallagua, the two greatest tin mines of Bolivia, are located in the same mountain, 42 miles southeast of Machacamarea, a station on the Antofagasta-La Paz Railway, a short distance south of Oruro. Patiño owns La Salvadora, while Llallagua is owned by Chilean capital operated under the name of *Compania Estañífera de Llallagua*. Patiño had built a railroad from Machacamarea to kilometer 40 (Punta de Rieles) and had the roadbed graded several kilometers farther toward Uncía, when the European war depressed the tin market and temporarily halted the work. It will no doubt be completed before very long. The railroad passes through Huanuni, the other important tin-mining district controlled by Patiño.

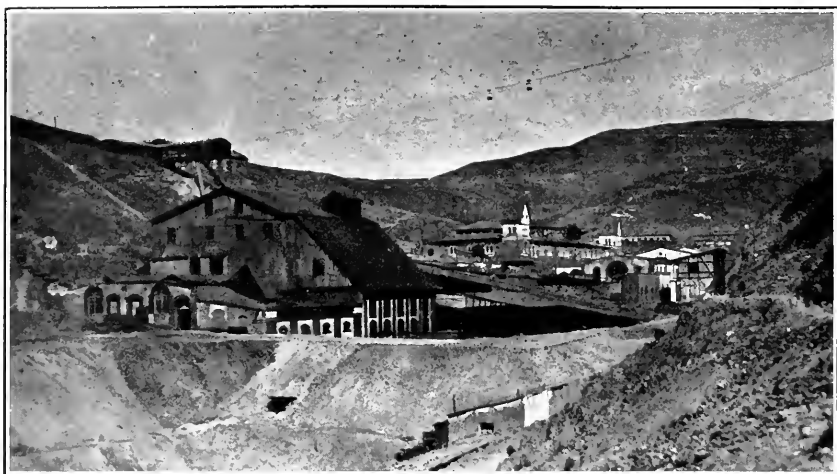
At the terminus of the railroad passengers are taken by stage to Uncía, a distance of 18 miles, over rough roads through a very hilly country. It requires five hours for the trip and costs 12 bolivianos a passenger (\$3.60). Supplies for the town of Uncía, which has a population of about 8,000 people, are mainly brought from the railroad by llamas. The country itself is arid and treeless and produces little. Fortunately, the scant, coarse grass is sufficient for the llamas and alpacas, the two animals on which the country is dependent for fuel, wool, meat, and transportation.

The hill from which almost one-half of Bolivia's annual production is obtained is composed of a central mass of porphyritic rhyolite, which has been intruded through a thick series of slates and shaly sandstones, in most places decidedly carbonaceous and dark in color, but near the town of Uncía there is considerable red shale. No fossils were found in these sedimentary rocks, but they belong to the great series of shales so prominently developed in the Eastern Cordillera and generally believed to be of Devonian age. In view of our discovery of widespread Tertiary shales in the vicinity of Potosí it seems probable that the Uncía shales may also be found to be of much more recent age, and it is hoped that fossils may be found. The shales outcrop on the lower flanks of the mountain. * * *

Throughout the mountain there are numerous veins, the most important of which have received names. * * * In the Llallagua about 15 veins have been found, of which the Reggis, Blanca, and San José are the most important. In general the veins have approximately parallel strikes, about N. 30° E., with steep dips to the northwest or southeast. Several of the southeasterly dipping veins of the Salvador mine pass into the ground owned by the Llallagua company, while some of the northwesterly dipping veins of the latter company enter the ground owned by Patiño. Difficulties between the two companies have been adjusted and they are now cooperating in the construction of a tunnel that will drain both properties.

The veins are extremely variable in width. Within a few yards a vein may be found to widen from a few inches to several feet and perhaps entirely disappear a few yards beyond. Naturally, stoping is confined to the wider portions of the veins only.

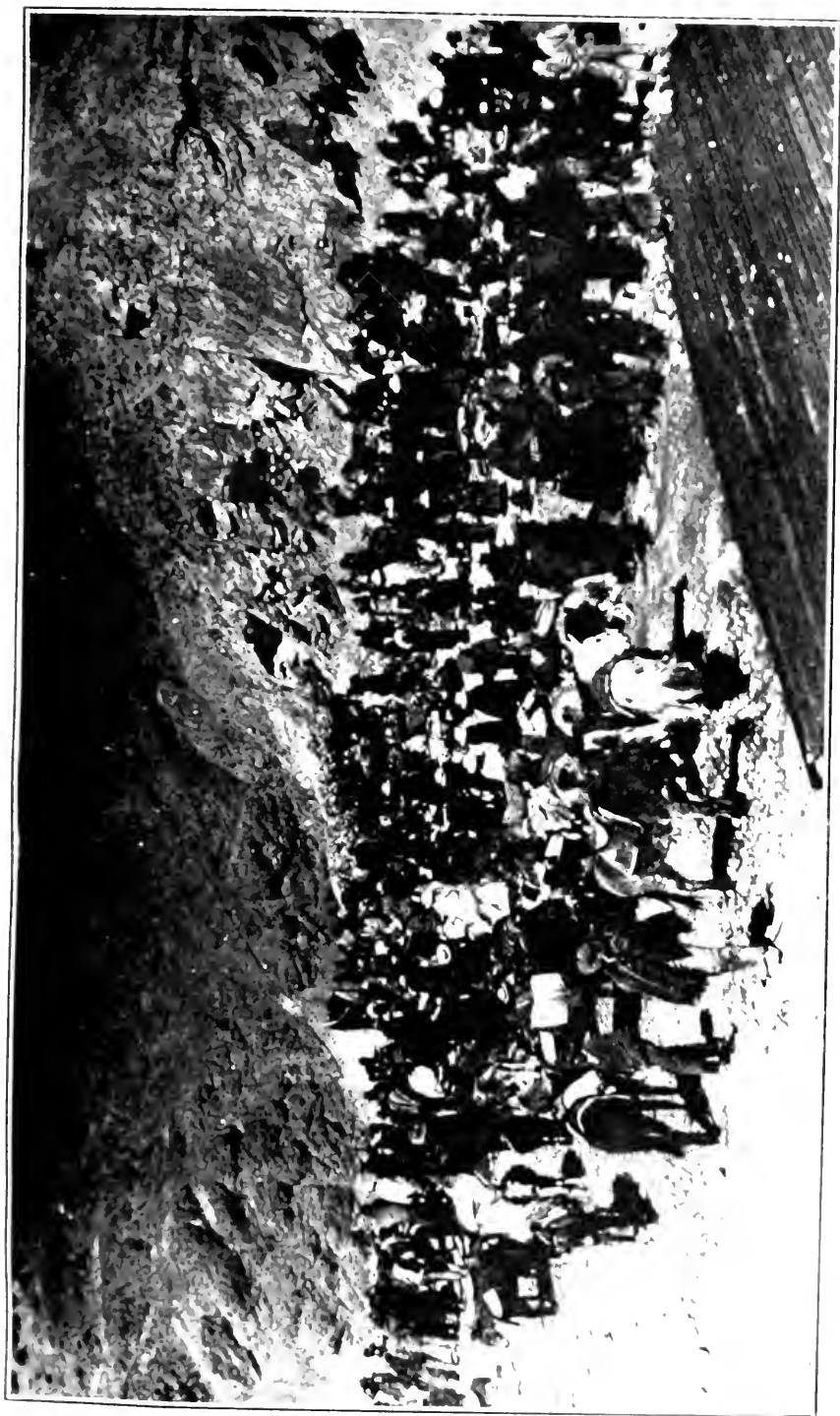
The veins are in part true fissure fillings and in part the cemented fragments of breccia along fracture zones. The principal ore mineral is cassiterite of very dark color, practically black. In the true veins it is fine grained and compact, but in the breccia there are numerous open cavities, or vugs, lined with cassiterite crystals. In places the cassiterite crystals in the vugs have been formed on quartz crystals pre-



Photos by B. L. Miller.

THE PATIÑO TIN MINES AT UNCIA.

Upper: The Uncia concentrating mill. Lower: Mine and mill superintendents at the main entrance of the Socavon Patiño, the great tunnel which cuts the ore veins, 7,312 feet long, and runs into the mountain at an elevation of 11,146 feet above sea level.



ENTRANCE OF SALVADORA TIN MINE, JUNCOA, BOLIVIA

For a day at the mine, hence the crowd of miner and vendor - shown in the picture

vously formed. Some of the cassiterite ore crumbles very readily, almost making a powder when broken.

Considerable bismuthinite occurs in the ore, but as yet no attention has been given it. While the bismuth content is not as great as one may think from a casual examination of the ore, due to the thin-bladed crystals of the bismuthinite determining the place where the ore breaks, and consequently showing prominently on the surfaces of the ore fragments, yet there is little doubt that some pieces of rich bismuth ore could be sorted out by hand with profit.

Wolframite and scheelite are present, but until recently no efforts were made to separate them from the cassiterite. In March, 1916, the first shipment of tungsten concentrates was made. It assayed 56 per cent tungstic acid, and the company was at that time obtaining 500 pounds a day. A little native copper and some chalcoppyrite have been found, but not in economic quantities.

Pyrite is almost the sole gangue mineral, with small amounts of marcasite, arsenopyrite, pyrrhotite, quartz, siderite, and aragonite. Most of the quartz is in the vugs. In the upper part of the mountain, where the veins have now been almost worked out, there was considerable oxidized ore (*pacos*), of porous character and stained with limonite. Some pockets of unusually rich tin were encountered in these early workings near the top of the hill, but in general the veins in the oxidized zone carry just about the same values as in the sulphide portion. In weight the *pacos* ores are richer, due to the removal of the gangue materials by oxidation and solution.

The concluding portion of the article deals with the various methods adopted in mining the ore, the placer tin workings of the Uncia district, the geology of Mount Posoquoni, where the main workings of the Huanuni section are to be found, and many other details of interest to the mining engineer and to those who are connected with the tin-mining industry.

A National Shrine, in the current number of the Spanish edition of the BULLETIN, is a short account of the formation of the Lincoln Farm Association and of its work in erecting a permanent memorial to the great President at the place of his birth. The following is the English version of the article:

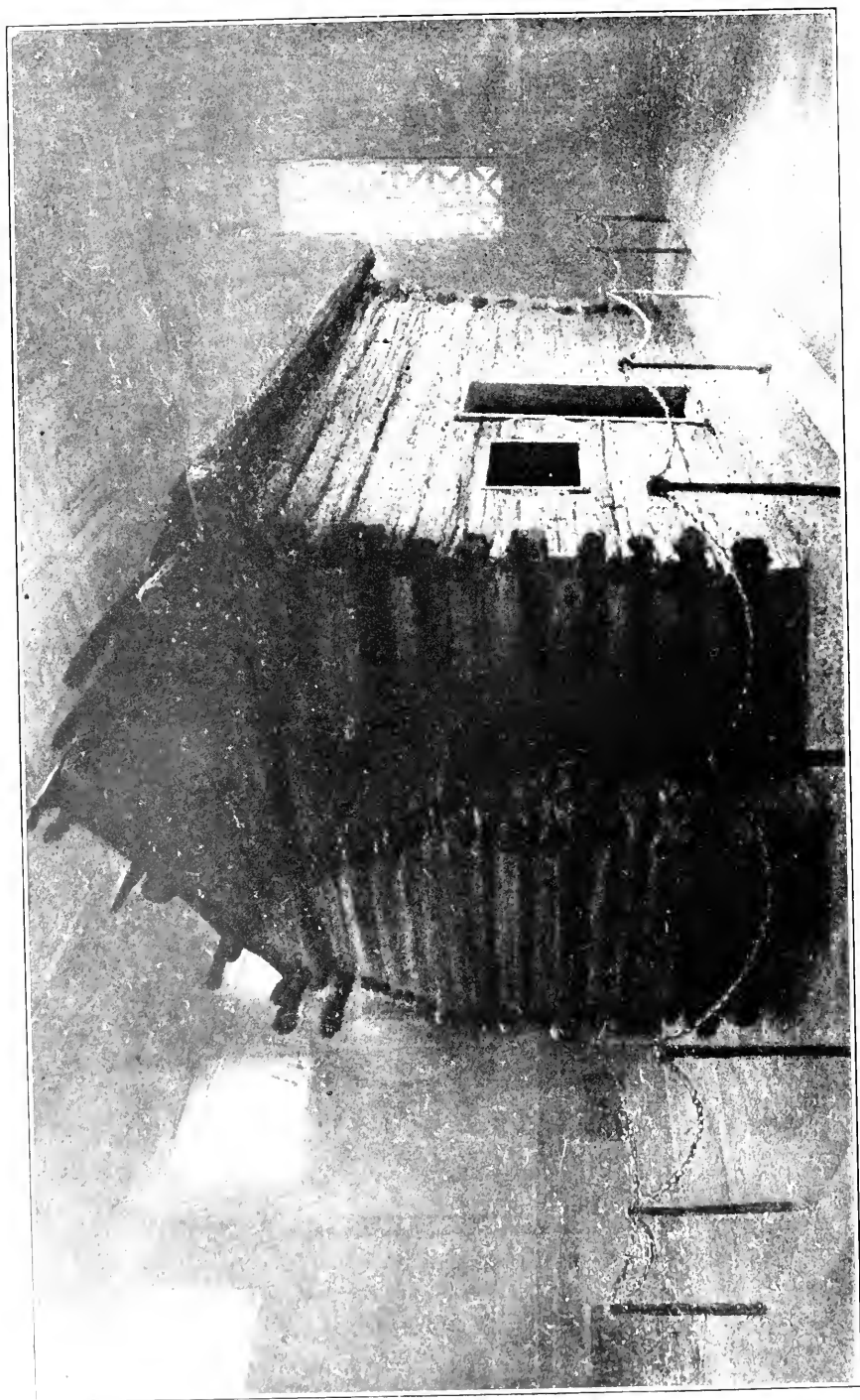
Abraham Lincoln, the great emancipator of the slaves and President of the United States during the period of the Civil War, was born in the State of Kentucky, February 12, 1809. The place of his birth was an humble cabin made of logs. In 1816 his parents moved from Kentucky to the State of Indiana, and young Lincoln, as he grew up, became in time a laborer on the river boats plying on the Ohio and Mississippi Rivers, a clerk in a store and mill at New Salem, in the State of Illinois, and postmaster at New Salem. While in this latter employment he began to study law, and was admitted to practice in 1836 at Springfield, the capital of the State of Illinois. Springfield thereafter remained his home until he became President of the United States. In 1847 he was elected to Congress, where he was distinguished for his outspoken anti-slavery views. In 1858 he was a candidate for United States Senator in opposition to Judge Stephen A. Douglas, two years later one of his opponents for the Presidency. Lincoln was defeated for the Senate and Douglas elected. In 1860 Lincoln was nominated by the Republican Party for President of the United States. Meanwhile, the Democratic Party, on account of the slavery issue, was split into two parts. The northern wing of the party nominated Stephen A. Douglas and the southern wing John C. Breckinridge, of Kentucky. In the three-cornered contest—or, rather, four-cornered, for there was a fourth candidate, Bell—Lincoln was elected, and became President on March 4, 1861. Almost immediately the Civil War began.



Courtesy of the New York Times

THE LINCOLN STATUE AT HODGENVILLE, KY., UNITED STATES OF AMERICA.

Mrs. Wilson, with the President of the United States, placing a memorial wreath on the statue.



Courtesy of Collier's.

THE HUT WHERE LINCOLN WAS BORN.

This cabin, which was the birthplace of President Lincoln, has been preserved and inclosed in a marble memorial temple. The money for the purchase of the cabin, site, and the building of the memorial was raised by popular subscription. Many people from all parts of the world will undoubtedly visit this home of Lincoln and see the "little hut" which was the cradle of one of the great sons of men.

In the popular mind President Lincoln was known as the "rail splitter"—that is, one who wrought out from the rough logs the rails or pales with which the rude fences of that time were constructed. No doubt he was a rail splitter, for he and his father in Indiana were pioneers, and all pioneers were in a way rail splitters.

In 1909, the year of the one hundredth anniversary of Lincoln's birth, an organization known as the Lincoln Farm Association was formed for the purpose of erecting a permanent memorial at the place of his birth in Kentucky. Funds were collected, the land and the humble log cabin purchased, around which it was proposed to build a beautiful marble temple, making of the whole a worthy memorial to the great emancipator. Additional funds for the upkeep of the memorial were set aside. In 1909 the corner stone of the temple was laid by President Roosevelt. In 1911 the building was dedicated by President Taft, and on September 16, 1916, it was accepted by President Wilson in behalf of the United States.

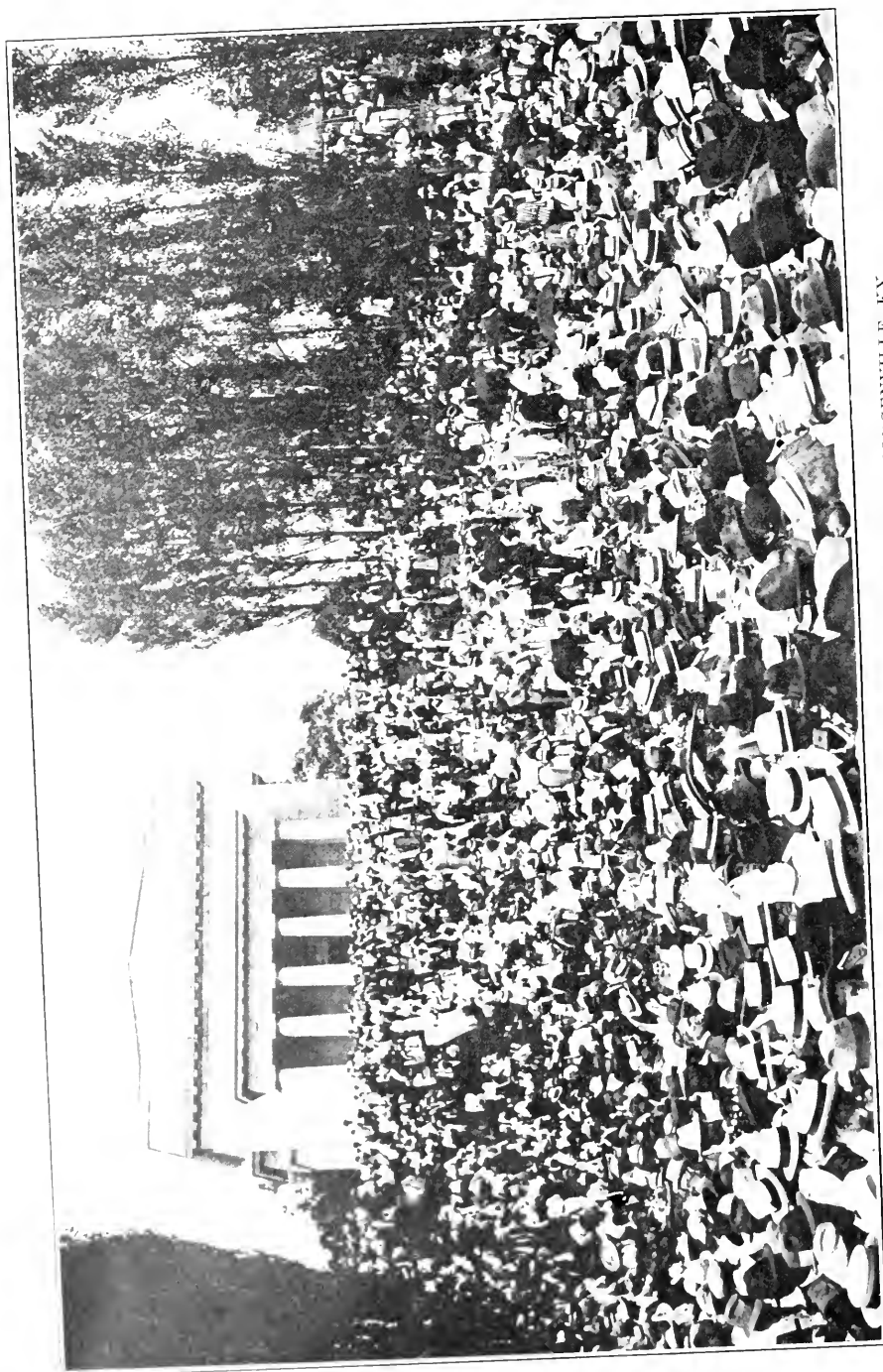
The following extract is from President Roosevelt's address at the laying of the corner stone:

This rail splitter, this boy who passed his ungainly youth in the dire poverty of the poorest of the frontier folk, whose rise was by weary and painful labor, lived to lead his people through the burning flames of a struggle from which the Nation emerged, purified as by fire, born anew to a loftier life. After long years of iron effort, and of failure that came more often than victory, he at last rose to the leadership of the Republic, at the moment when that leadership had become the stupendous world task of the time. He grew to know greatness, but never ease. Success came to him, but never happiness, save that which springs from doing well a painful and vital task. Power was his, but not pleasure. The furrows deepened on his brow, but his eyes were undimmed by either hate or fear. His gaunt shoulders were bowed, but his steel thews never faltered as he bore for a burden the destinies of his people. His great and tender heart shrank from giving pain; and the task allotted to him was to pour out like water the lifeblood of the young men, and to feel in his every fiber the sorrow of the women. Disaster saddened but never dismayed him. As the red years of war went by they found him ever doing his duty in the present, ever facing the future with fearless front, high of heart and dauntless of soul. Unbroken by hatred, unshaken by scorn, he worked and suffered for the people. Triumph was his at the last, and barely had he tasted it before murder found him, and the kindly, patient, fearless eyes were closed forever.

President Wilson in accepting the deed to the property to the Nation said:

This little hut was the cradle of one of the great sons of men, a man of singular, delightful, vital genius, who presently emerged upon the great stage of the Nation's history, gaunt, shy, ungainly, but dominant and majestic, a natural ruler of men. * * *

Whatever the vigor and vitality of the stock from which he sprang, its mere vigor and soundness do not explain where this man got his great heart that seemed to comprehend all mankind in its catholic and benignant sympathy, the mind that sat enthroned behind those brooding, melancholy eyes, whose vision swept many a horizon which those about him dreamed not of—that mind that comprehended what



Courtesy of the Literary Digest. DEDICATORY CEREMONIES OF THE LINCOLN MEMORIAL AT HODGENVILLE, KY.

This memorial contains the hut where President Lincoln was born, and was accepted by the President of the United States on behalf of the Nation on September 4, 1916.

it had never seen and understood the language of affairs with the ready ease of one to the manner born; or that nature which seemed in its varied richness to be the familiar of men of every way of life. * * *

In the case of a man I would rather say of a spirit like Lincoln, the question where he was is of little significance, but it is always what he was that really arrests our thought and takes hold of our imagination. It is the spirit always that is sovereign. * * *

There is a very holy and terrible isolation for the conscience of every man who seeks to read the destiny in affairs for others as well as for himself, for a nation as well as for individuals. That privacy no man can intrude upon. That lonely search of the spirit for the right perhaps no man can assist. This strange child of the cabin kept company with invisible things, was born into no intimacy but that of its own silently assembling and deploying thoughts. * * *

The only stuff that can retain the life-giving heat is the stuff of living hearts. And the hopes of mankind can not be kept alive by words merely, by constitutions and doctrines of right and codes of liberty. The object of democracy is to transmute these into the life and action of society, the self-denial and self-sacrifice of heroic men and women willing to make their lives an embodiment of right and service and enlightened purpose. * * *

The commands of democracy are as imperative as its privileges and opportunities are wide and generous. Its compulsion is upon us. It will be great, and lift a great light for the guidance of the nations only if we are great and carry that light high for the guidance of our own feet. We are not worthy to stand here unless we ourselves be in deed and in truth real democrats and servants of mankind, ready to give our very lives for the freedom and justice and spiritual exaltation of the great Nation which shelters and nurtures us.

Another Lincoln memorial is a still more imposing temple, nearly 200 feet long by 100 feet wide, rising on the banks of the Potomac at Washington. The marble blocks of the exterior are said to be the largest ever employed in any quantity on a public building. The steps extend 400 feet from the edifice and the retaining wall is 187 by 327 feet—dimensions which may give some idea of the proportions of the monument. All of the exterior columns in the Doric colonnade have now been completed and half of those in the interior have been placed. The structure will be finished, it is now announced to our gratification, in June, 1917, a year ahead of time. Both memorials will be national shrines. The interior of one speaks of Lincoln's origin. The interior of the other will speak of his life. It will contain the statue by Daniel Chester French. On the walls are to be engraved the Gettysburg speech and the second inaugural address, and mural decorations are to typify some of Lincoln's inspired words.



SUBJECT MATTER OF CONSULAR REPORTS

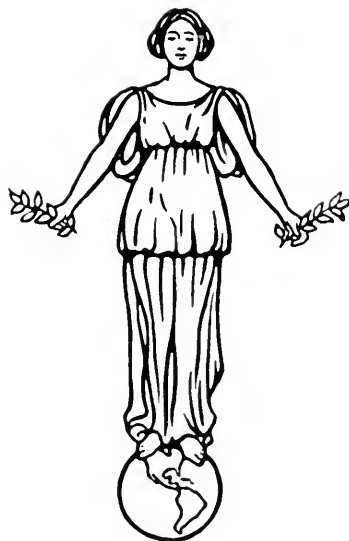
REPORTS RECEIVED UP TO SEPT. 30, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
Results of operation of Agrarian Pledge law	1916, July 26	W. Henry Robertson, consul general, Buenos Aires.
BRAZIL.		
Semiannual report on commerce of Santos	Aug. 2	Carl F. Deichman, consul, Santos.
List of dealers and firms in Santos	Aug. 3	Do.
Imports of cartridges and shells 1914-15	Aug. 8	A. L. M. Gottschalk, consul general, Rio de Janeiro.
CHILE.		
Study of potential hydroelectric sites in Chile	July 18	L. J. Keena, consul general, Valparaiso.
Increase in customs revenues, first six months of 1916	July	Do.
Restriction of train service due to shortage of coal	Aug. 1	Do.
Purchase of mining properties by American company	Aug. 10	Do.
COSTA RICA.		
New district to be opened by canalization of Atlantic coast	Aug. 1	C. Donaldson, consul, Port Limon.
CUBA.		
Commerce and industries for 1915	July 15	P. Merrill Griffith, consul, Santiago.
New Cuban sugar centrals	Aug. 26	Henry M. Wolcott, vice consul, Habana.
Construction work	Sept. 15	R. M. Bartleman, consul, Cienfuegos.
DOMINICAN REPUBLIC.		
New transportation line between Santo Domingo and Porto Rico	Aug. 5	Carl M. J. von Zielinski, vice consul, Santo Domingo.
Comparative statement of declared exports from Santo Domingo	Sept. 4	Do.
Sugar crop in Santo Domingo consular district	Sept. 7	Do.
ECUADOR.		
Ecuador market for June, 1916	July 19	Frederic W. Goding, consul general, Guayaquil.
Carno disease in Ecuador	July 25	Do.
Ecuador market for July, 1916	Aug. 9	Do.
Railway improvements in 1916	Aug. 14	Do.
GUATEMALA.		
Table waters in Guatemala. Imports during 1912-1914	Aug. 1	Stuart Lupton, consul general, Guatemala.
Commerce of Guatemala, 1915; second section	Aug. 24	Do.
HONDURAS.		
Hide shipments to United States	Aug. 2	Walter F. Boyle, consul, Puerto Cortes.
Resumption of banana shipments from Puerto Cortes	Aug. 7	Do.
Pegarding shipments to Honduras "cash against documents"	Aug. 9	Do.
Agricultural experimental station established near Tegucigalpa	Aug. 15	E. M. Lawton, consul, Tegucigalpa.
New industry for Honduras (concession to distill alcohol from bananas)	Aug. 22	Do.
Census taking	do.	Do.
MEXICO.		
Translation of decree of June 28, 1916, regarding payment of taxes	July 21	Wm. W. Canada, consul, Vera Cruz.
Market for soap	Aug. 14	Do.
Monetary situation in Vera Cruz consular district	Aug. 22	Do.
Market for handkerchiefs	Aug. 31	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to September 30, 1916—Continued.

Title.	Date.	Author.
NICARAGUA.		
Coffee exports, January to June, 1916.....	1916. July 20	John A. Gamon, consul, Coriente.
Construction work.....	Aug. 1	Do.
Difficulties arising from incomplete documentation of exports.....	Aug. 21	Do.
Tariff notes.....	Aug. 23	Do.
PANAMA.		
New school building in Colon.....	Aug. 2	Julius D. Dreher, consul, Colon.
New municipal building in Colon.....	Aug. 9	Do.
New line between New Orleans and Colon.....	Aug. 15	Do.
Proposed resumption of steamship service from Colon.....	Aug. 26	Do.
Panama coaling station at Cristobal.....	Aug. 31	Do.
Improvements in Colon-Cristobal.....	Sept. 12	Do.
PARAGUAY.		
Commercial treaty signed by Paraguay and Argentina.....	July 10	Samuel Hamilton Wiley, consul, Asuncion.
Kaolin deposits.....	July 14	Do.
PERU.		
Increased customs revenues for first six months of 1916.....	July 29	William W. Handley, consul general, Callao-Lima.
URUGUAY.		
Consular freight list for Uruguay.....	May 26	Herman L. Spahr, consul, Montevideo.
Patents, trade-marks, and copyrights.....	July 24	Do.
VENEZUELA.		
Flour market at Maracaibo.....	July 31	G. K. Donald, consul, Mara- caibo.
Annual report on commerce and industries, 1915; first section....	Aug. 31	Do.



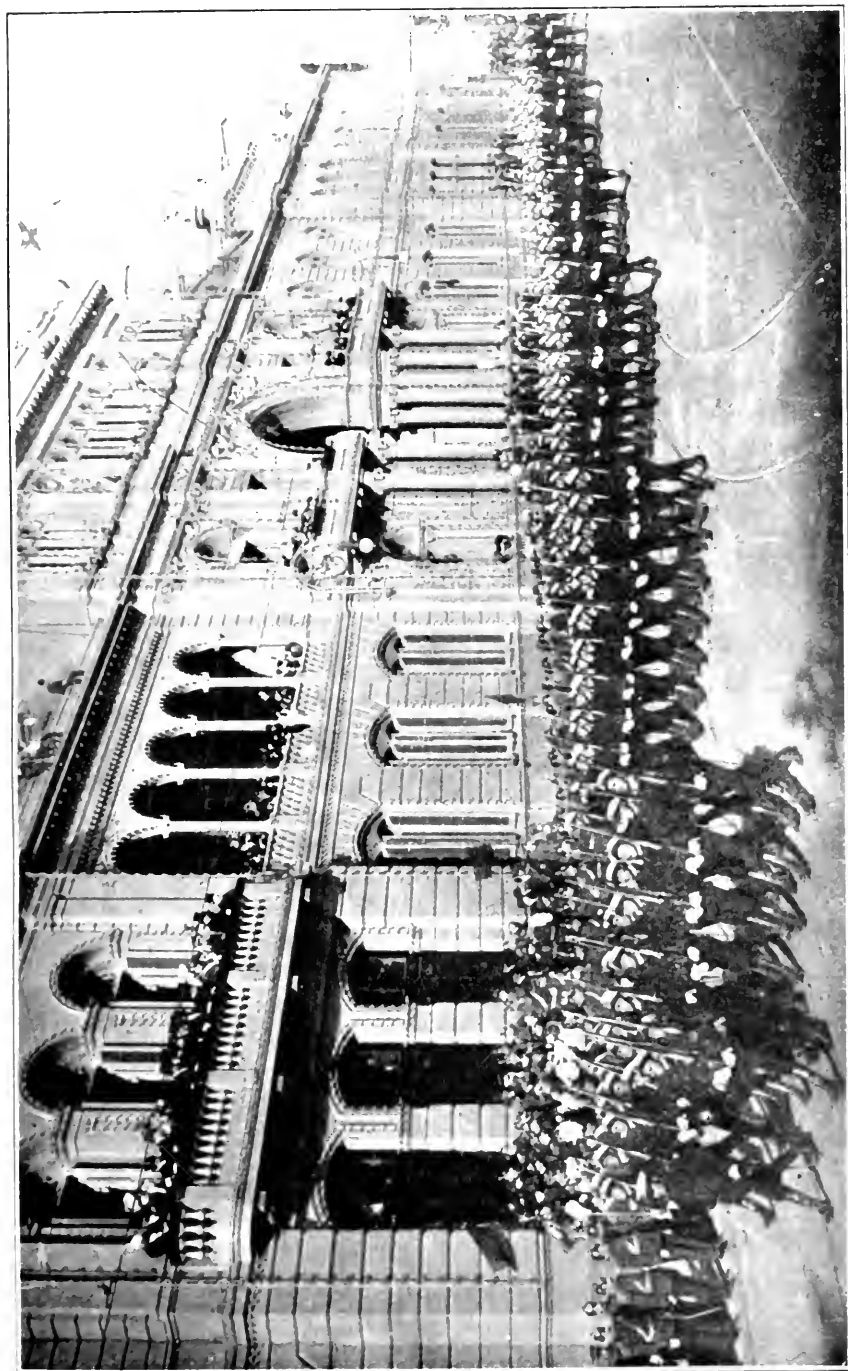


Photo by Louis M. C.

CELEBRATING THE CENTENARY OF ARGENTINE INDEPENDENCE IN BUENOS AIRES.

The Argentine Declaration of Independence was signed by its framers in the city of Tucuman on July 9, 1816. The one hundredth anniversary of the event was the occasion of much festivity and ending in the celebration in Buenos Aires, and the above picture shows a small part of the great procession, in which many military and civic organizations participated.



RECEPTION AT THE UNITED STATES LEGATION, CARACAS, VENEZUELA.

on the American national holiday, the United States minister to Venezuela, Hon. Preston McGowin, held at the legation in Caracas a reception to the members of the diplomatic corps, their families, and many prominent in the political and social life of the capital.



Photo by Underwood & Underwood

MONUMENT TO CERVANTES THE GREAT SPANISH AUTHOR, RECENTLY UNVEILED
IN GOLDEN GATE PARK, SAN FRANCISCO.

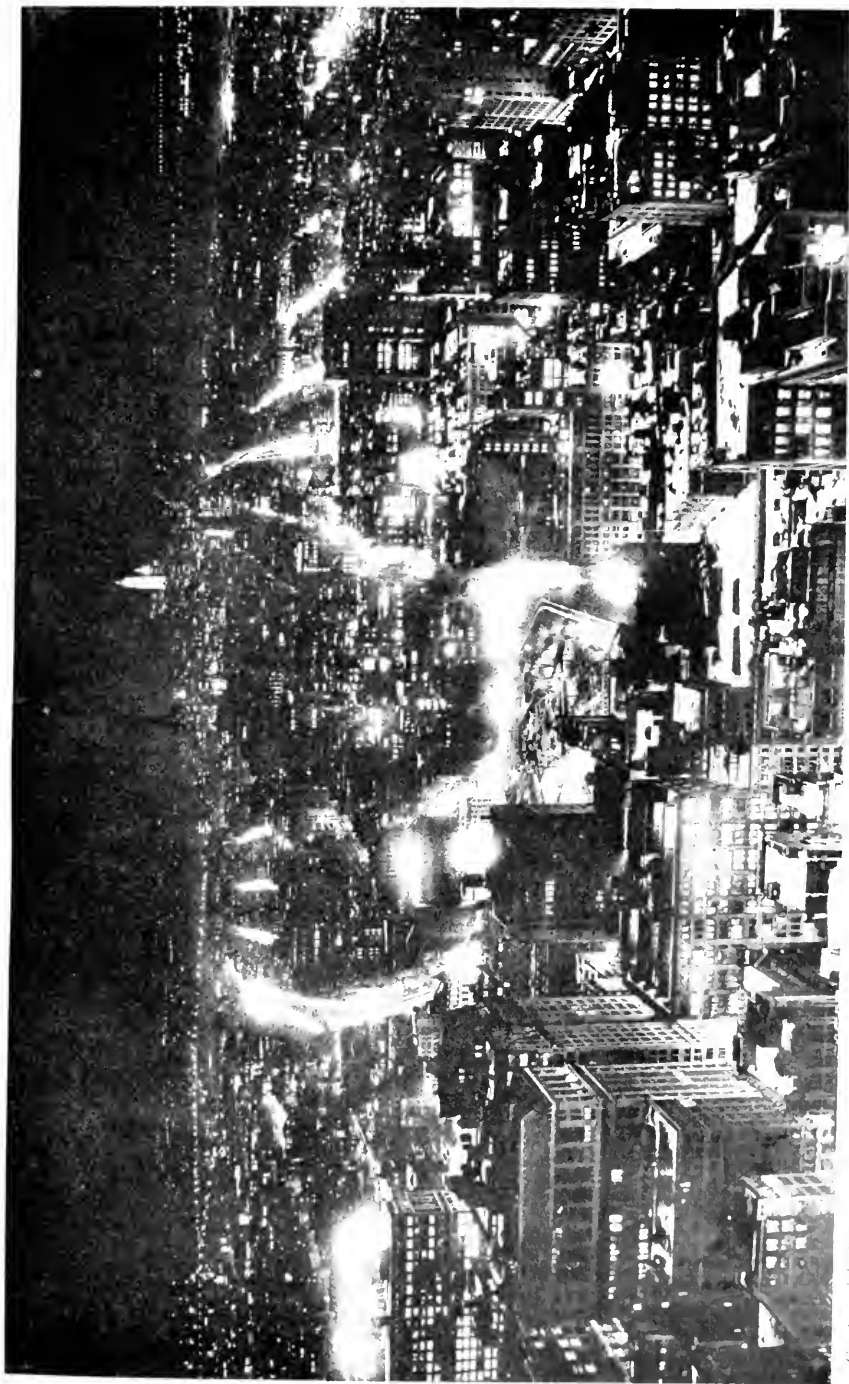
Two public-spirited citizens—Miguel de Cervantes and his wife—were the
beautiful and unusual monument in memory of the great Spanish author.



Courtesy of La Ilustración Argentina.

CELEBRATION OF THE CERVANTES CENTENARY IN BUENOS AIRES, ARGENTINA.

Interesting photograph showing a tableau by students of the Normal School for Teachers of Buenos Aires, picturing the women of "Quixote," as follows: Don Quixote's housekeeper, La Sobrina, Dulcinea, Marcela, Dorotea, Luscinda, Zoraida, Altisidora y Teresa Panza.

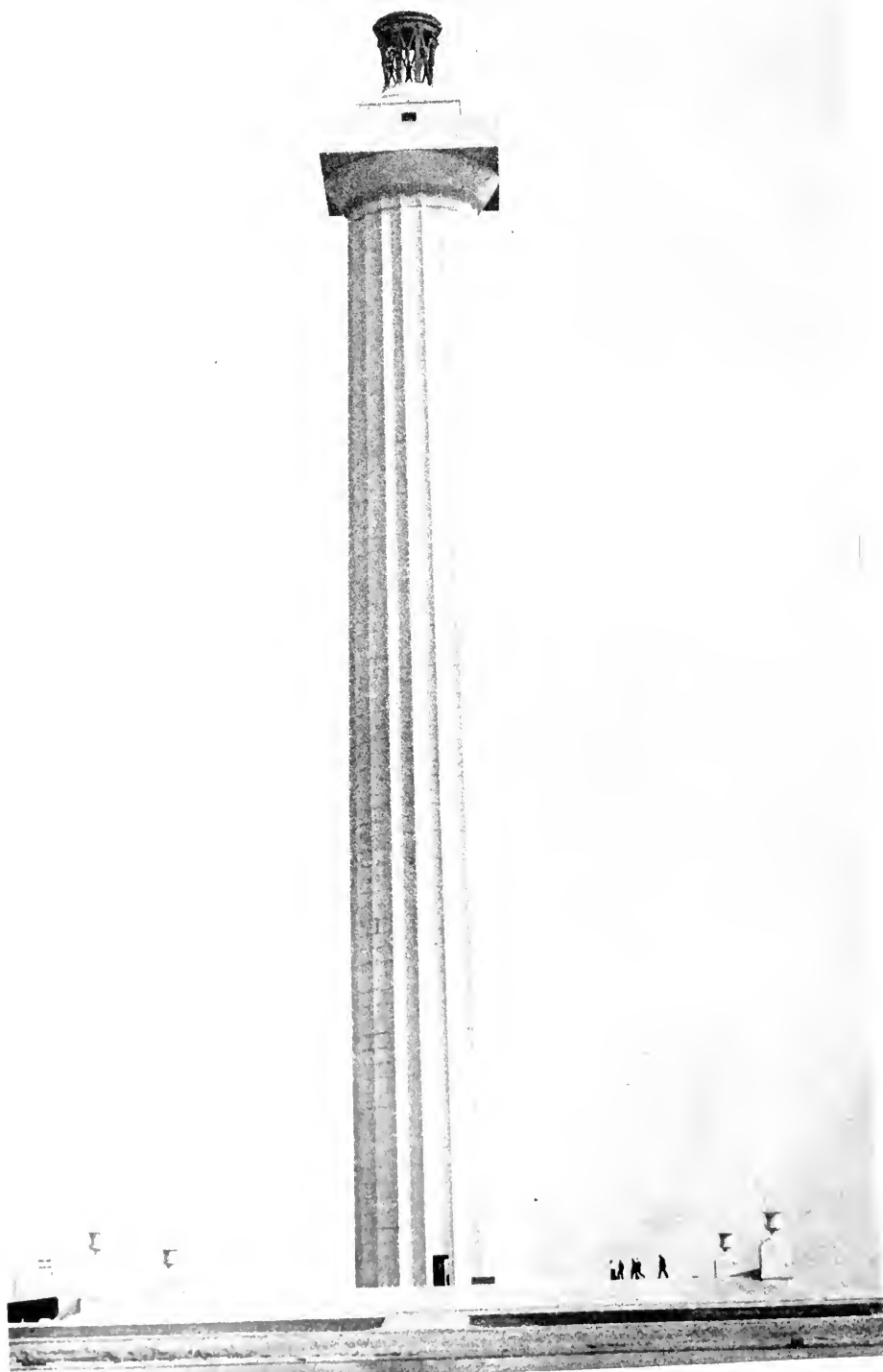


THE CITY OF NEW YORK AT NIGHT

Copyrighted by New York and E. J. Co. Company



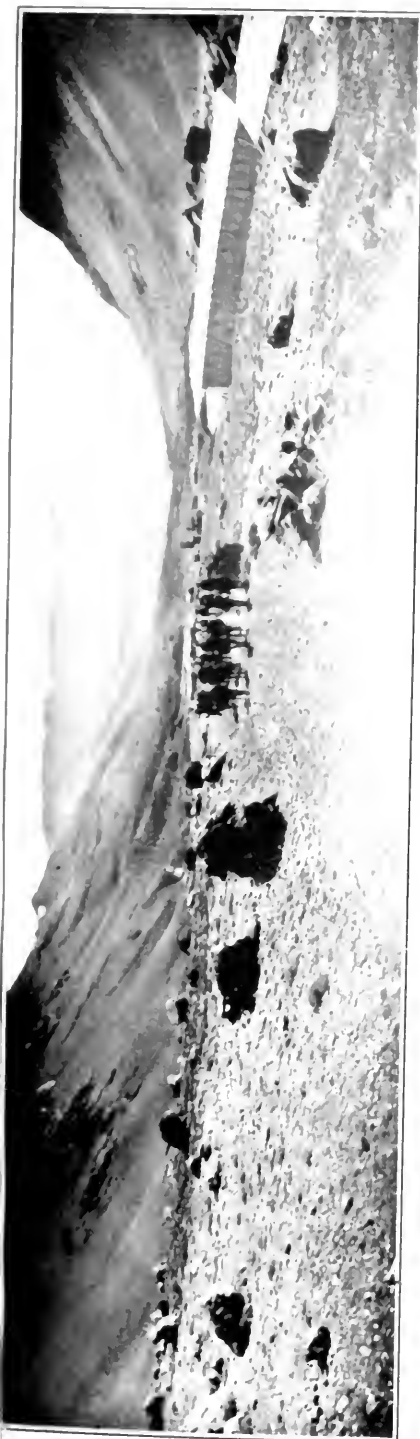
Courtesy of Ziz-Zag, Santiago, Chile. PARTIAL VIEW OF SANTIAGO, CHILE, TAKEN FROM SANTA LUCIA.



Copyright in Architecture and Building

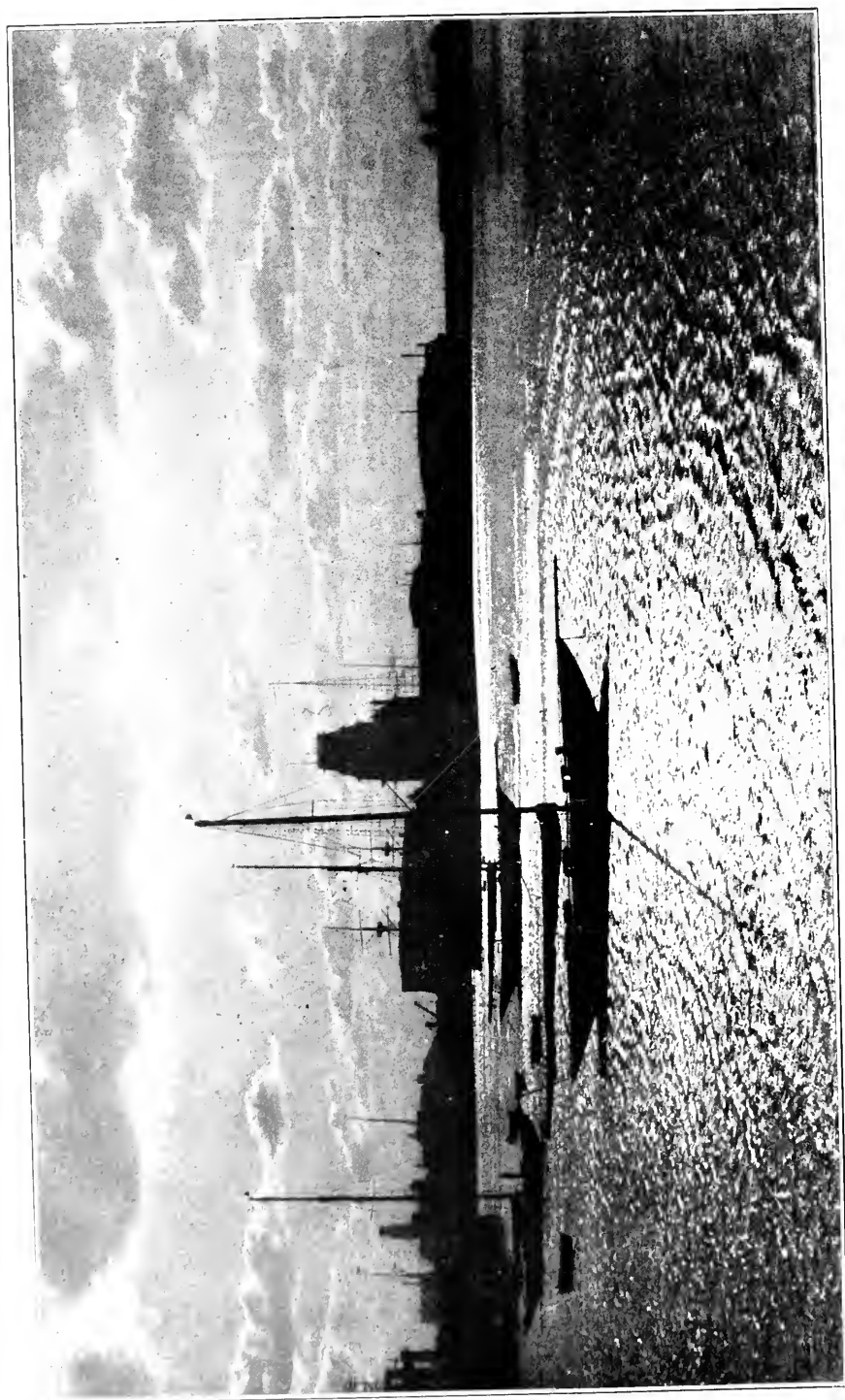
THE PERRY MEMORIAL MONUMENT, PUT-IN-BAY, OHIO.

The Perry Memorial Monument has been erected at Put-In-Bay, Ohio, to commemorate the battle of Lake Erie, in which the American commander, Commodore Oliver Hazard Perry, won a decisive naval victory over the British, under the command of Commodore Robert H. Barclay, September 10, 1813. The granite shaft, which is the central feature of the monument, towers 320 feet above Lake Erie and is crowned by a great bronze lantern, modeled after a Greek altar lamp, about 20 feet high and elaborately designed.



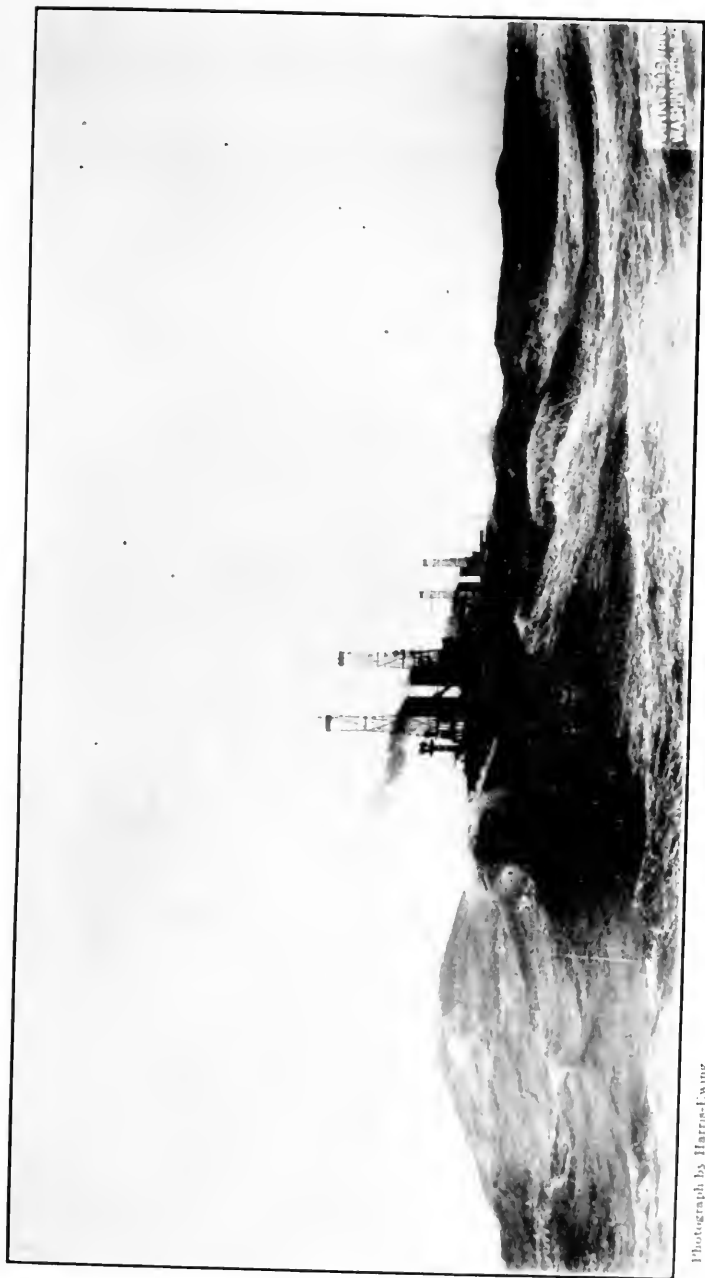
ANDEAN SCENES BETWEEN ARGENTINA AND CHILE

The photograph on the left shows the old stage route, occasionally the road runs through a comparatively smooth and flat valley formed between great ranges of mountains, being thickly grown with great lowlands that have been broken from the range above and washed down by the rains of centuries. Lower down the valley, the mountains are more rugged and the vegetation is more scanty. The photograph on the right shows the highest point of the Esquelita Pass just on the Argentine side of the boundary line between Argentina and Chile. East from the mountain range of Esquelita, the road has been completed and travelled in March, 1901. The road is a fine, straight, and noble Argentine woman, Señora de Costa, the rest of the work being borne by private subscription. The road, at the foot of Christ is 26 feet high, and stands boldly in a cross in one hand, and extending a blessing with the other. The road is the foot of Christ, the people of Argentina and Chile break the peace which



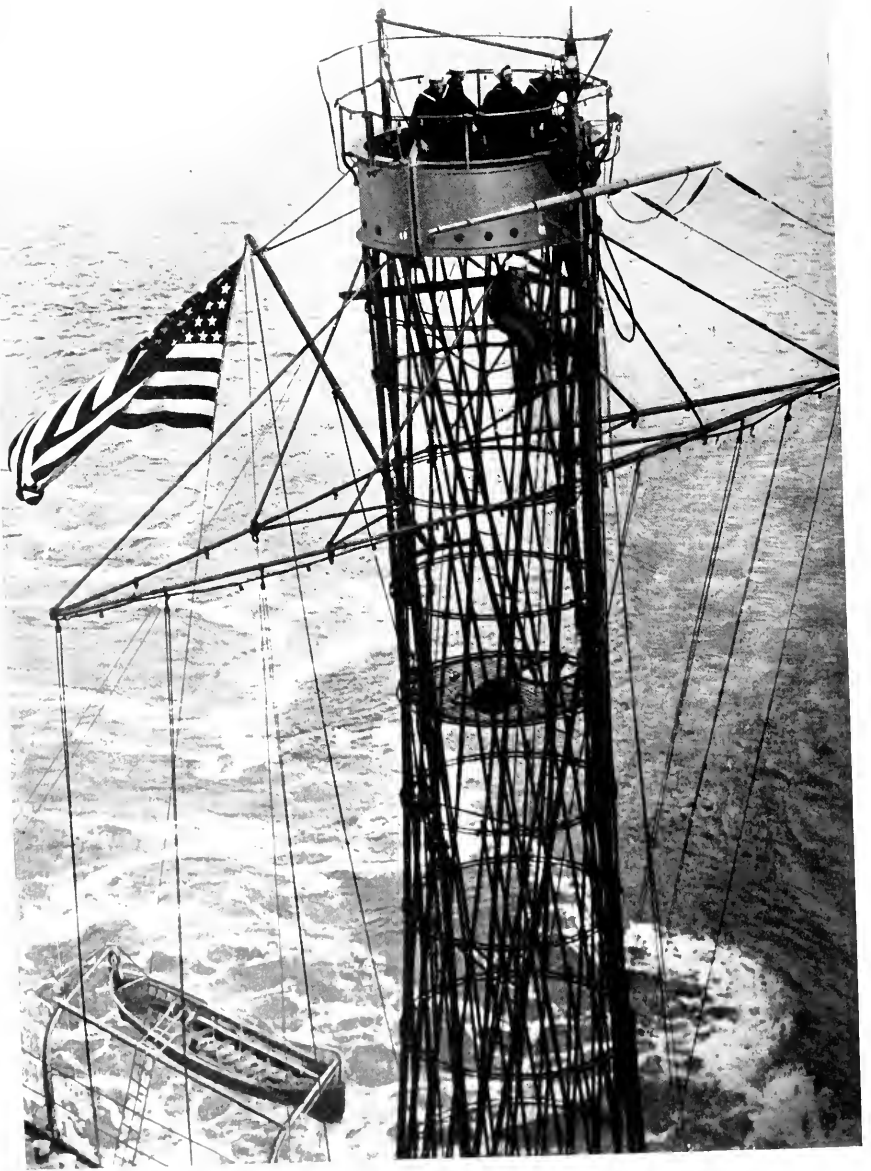
LIGHT EFFECT ON THE RIO DE LA PLATA.

Courtesy of El Hogar, Buenos Aires.



Photograph by Harro-Lwing

A DREADNAUGHT OF THE UNITED STATES NAVY FLOWING ITS WAY THROUGH A STORMY SEA.



Courtesy of Popular Mechanics.

THE BASKET MAST OF THE FIRE-CONTROL SQUAD.

The tall wire turrets are an important development in the latest battleship construction. The mast is designed to stand up against persistent attack. The squad in the mast perform highly important work in range finding and fire control.

ARGENTINE REPUBLIC

The FOREIGN COMMERCE of the Argentine Republic during the first half of 1916 amounted to 351,023,818 gold pesos (gold peso=\$0.9647), made up of imports, 104,966,451 gold pesos, and exports, 246,057,367 gold pesos. The balance of trade in favor of the Republic for this period amounted to 141,090,916 gold pesos, the second highest figure ever reached. Imports for the first half of 1915 showed an increase of 4,838,541 gold pesos over those for the same period in 1914, while the exports showed a decrease of 84,428,462 gold pesos. Live stock, textile and agricultural products, combustibles, and manufactured articles were the principal imports that increased over those of the six months' period in 1915, while the exports only increased in cattle, forest and mining products.—The first SOUTH AMERICAN CONGRESS OF HYGIENE, MICROBIOLOGY, AND PATHOLOGY held its sessions in conjunction with the National Congress of Medicine, which met in Buenos Aires September 17–24. Many important topics, such as cancer, leprosy, etc., were assigned and discussed by the most eminent authorities.—On July 18 the corner stone of a new HOSPITAL was laid at La Rioja. The hospital is to be called the Hospital Regional Andino and is to cost 446,173 pesos national currency, according to the contract.—By an Executive decree of July 26 the Walker Construction Co. of Buenos Aires is authorized to resume work at once on the PORT WORKS of the national capital. The decree limits the amount to be expended on the works at not less than 100,000 gold pesos per month.—Arrangements have been completed between the United Press of the United States and La Nación, an important daily of Buenos Aires, for the INTERCHANGE OF NEWS between North and South America.—A factory with a capacity for reducing to pulp 90 tons of dyewood per 24 hours has been constructed in Santa Fe to manufacture DYES by a new process of an Argentine chemist. All machinery so far installed was made in Argentina. —The Agricultural Museum of the Rural Society has recently received from the Government authorities of Chaco a fine assortment of native woods for exhibit and gives some interesting figures on the development of the WOOD INDUSTRY in Argentina. During 1915, 100,213 metric tons of quebracho extract were exported, worth 15,873,372 pesos, showing an increase in value of more than 10,000,000 pesos over 1914. Other forest products exported in 1915 were valued at 4,000,000 pesos, 3,000,000 pesos of which were for quebracho logs. In his last message the Governor of the Province of Santiago del Estero states there are 137 sawmills in the Province, employing 15,000 laborers, and outstanding contracts for supplying

1,000,000 tons of wood to the railways, worth more than 10,000,000 pesos. During 1915 the coal and wood output of this Province sold for 6,055,011 pesos. The exports of CEREALS in metric tons (metric ton = 2,204.6 pounds) for the first half of 1916 were: Wheat, 1,600,000; corn, 1,050,000; linseed, 100,000; oats, 150,000. As compared with same period in 1915, wheat exports decreased 40 per cent but increased 85 per cent over the corresponding period in 1914; corn decreased 40 per cent over 1915 and 28 per cent over 1914; oats decreased 10 per cent over 1915 and increased 30 per cent over 1914; linseed decreased slightly over 1915 and increased 40 per cent over 1914.—Important deposits of ALUMINUM SULPHATE, used extensively for purifying water, have been discovered at Posadas, Territory of Misiones, and a plant will shortly be located there for the manufacture of the chemical. The collections through the CUSTOMHOUSES of the Argentine Government for the first six months' period in 1916 aggregated 62,515,627 pesos national currency, against 54,834,953 pesos in the corresponding period of 1915.

—A recent Executive decree approves the plans of the Administration of State Railways for extending the CENTRAL NORTE RAILWAY to connect with the La Quiaca-Tupiza line of Bolivia. The sum of 70,916,333 pesos national currency is allowed for the construction of 478 meters of track and for one-half of the cost of building a stone bridge across La Quiaca River. —An Executive decree of August 1 grants certain large tracts of land in the Territories of Chaco and Formosa for the establishment of two INDIAN COLONIES. The Government will furnish seed and farm implements and encourage the colonists in agricultural pursuits. Work on construction of the new NATIONAL COLLEGE of Buenos Aires is nearing completion, and it is estimated that the part facing Bolivar Street will be completed by the end of 1916. The total cost of the new building will approximate 2,500,000 pesos. —The Department of Agriculture has published an illustrated pamphlet of 90 pages on the cultivation of PINEAPPLES in the Territory of Misiones, where the area of the fruit under cultivation is rapidly increasing. According to recent statistics of the Department of Agriculture, the MUTUAL AND COOPERATIVE AGRICULTURAL SOCIETIES of the Argentine Republic increased from 35 in 1914, with a cash capital of 5,079,177 pesos, to 39 in 1915, with a corresponding capital increase, and the number of members from 19,531 in 1914 to 22,351 in 1915. While the increase in number of societies in 1915 has been small, the membership has increased by 2,820 members and the cash capital by more than 1,000,000 pesos. According to statistics for the month of June, 1916, the operation of the agrarian loan law has been most successful, there having been 1,122 contracts recorded for that month for a total sum of 11,495,093 pesos, of which 5,443,442 pesos were for agriculture, 5,364,991 pesos for cattle raising,

and 686,660 pesos for farm machinery. These loans were widely distributed, chiefly in the Province of Buenos Aires, Cordoba, Mendoza, Santa Fe, and the Pampa Central.—A recent decree on ARGENTINE IMMIGRATION LAWS requires that “immigrants on their arrival in port shall present to the officials of the Immigration Department a certificate from the judicial authorities of their country of origin, which will be viséed gratuitously by the Argentine consular representative and which must state that they have not been in the hands of the police for transgression against social order during 10 years previous to their arrival, nor for crimes which have rendered them liable to defamatory penalties, nor suffered from mental aberration, nor practiced begging.” All steerage passengers booked to Argentine ports should be provided with the necessary certificates required by this law in addition to their passports.



The new monthly STEAMSHIP SERVICE between Puerto Suarez, Bolivia, and Rosario, Argentina, covering approximately a distance of 1,800 miles on the Paraguay and Plata Rivers will be of inestimable benefit to the commerce that passes into and out of Bolivia at Puerto Suarez. To-day the goods sent to Bolivia by that route must be transshipped at Rosario, Asuncion, and often at other points, but the new service necessitates only one change between New York and Suarez, at Rosario. The Bolivian firm of Lara & Co., of Santa Cruz, is the promoter of the enterprise. The first vessel to make the run was the MARIA, which, in addition to freight service, has accommodations for 50 first-class passengers.—Lara & Co. are said to be also interested in establishing MECHANICAL TRACTOR or motor service between Puerto Suarez and Santa Cruz, Bolivia, a distance of 425 miles, in connection with their steamer service on the route above mentioned. The increased output of Bolivian minerals and inadequate steamship service on the Pacific coast of South America is calling attention to the new outlet now being considered by Lara & Co.—On August 6 President Montes read his ANNUAL MESSAGE before the national congress which assembles on that date each year. The message breathed optimism and showed that, as usual, Bolivia is at peace with all nations, and that the commercial and industrial development of the country is more active than ever before. Railway construction is to continue penetrating new sections of the Republic. Two of the most important lines to be constructed are those from Potosi to Sucre and from La Paz to the Yungas region.—The following gentlemen have been nominated by the Liberal party FOR PRESIDENT, first and second vice president, respectively: Señores

Don Gutierrez Guerra, Ismael Basquez, and Jose L. Quinteros. The election will not take place for several months, as the term of the present incumbent of the presidency, Señor Montes, does not expire until August 6, 1917. According to the Bolivian constitution, no chief executive may stand for reelection until after an intervening term of a different administration.— Of the seven WIRELESS STATIONS for which Bolivia contracted some time ago, towers at the following points have been completed and placed in service: Yacuiba, Ballivian, D'Orbigny y Esteros de Patino, and Riberalta, while the station near Viacha will be ready for operation within a few months. The new service is already proving its usefulness and messages have been exchanged with various neighboring republics. Cobija, on the Acre River, will be the next location for constructing a similar tower, and actual work on the latter will begin at an early date. Telegraph or TELEPHONE SERVICE stations have been established at the following places during the last year: Tarapaya, Miraflores, Cuatro Ojos, Condo, Chuma, Cajuta, Chivas, Tarairi, Acasio, Carapata, Tucupaya, Sandillani, San Pedro de Buena Vista, Ansaldo. These additional facilities for communication will greatly aid commercial intercourse with many interior points of the country.

Chandler & Co., the New York capitalists who are interested in the RAILWAY now under construction from La Paz to the Yungas region, have asked for certain options on the proposed line which the Government is to build between Sucre and Potosi, a distance of about 150 miles.—In order to save the transshipment of freight at Viacha, the Government has asked the companies operating the Oruro-Viacha and the Viacha-Guaqui lines to arrange for THROUGH TRAINS TO GUAQUI, the Bolivian port on Lake Titicaca. This plan will expedite ore shipments and thereby aid many companies operating Bolivian mining properties.—Additions to the MILITARY HOSPITAL in La Paz are likely to result from the emphasis laid by the President on public health and sanitary matters when he appeared before the national congress recently.



In his MESSAGE to Congress of July 11, Dr. Altino Arantes, President of the State of São Paulo, calls attention to the State's flourishing business conditions. The State revenues in 1915 reached the record figure of 77,897 contos paper (conto paper about \$250 United States currency), or 12,186 contos more than in the preceding year, giving a surplus of 3,412 contos over the expenses as budgeted for the year. The value of exports increased from 176,021 contos in 1914 to 620,775 contos in 1915. The value of imports for 1915 was

156,887 contos, or an increase of 21,639 contos over 1914.—The Commercial Institute of Rio de Janeiro has inaugurated an exhibit of NATIONAL PRODUCTS, at which all branches of Brazilian industry are represented.—According to statistics compiled by the Department of Education, the number of students who matriculated in November, 1915, in the PRIMARY SCHOOLS of the federal district of Rio de Janeiro was 81,278, of which 74,879 were Brazilian, 3,996 foreign, and 2,403 of undeclared nationality. Of the total enrollment there were about 20 per cent more girls than boys.—From information on the SPINNING INDUSTRY, published by the Centro Industrial, a commercial association of Rio de Janeiro, on December 31, 1914, there were 303 mills in Brazil, mostly cotton, with a capital of 400,000 contos, producing annually 240,000 contos and employing 75,000 workmen. It is estimated that 60,000,000 kilos of cotton are consumed annually by the native industry, and not less than 50,000 looms and 1,500,000 spindles are in active operation. The State of São Paulo ranks first, with 76 mills, employing 23,590 workmen, and Minas Geraes second, with 59 mills, employing 8,084 workmen.—A COMMISSION representative of United States finance, commerce, and industry has paid a return visit to Brazil, in response to an invitation extended at the Pan American Financial Conference held at Washington, May 24–29, 1915, to all countries therein represented. The commission arrived in Rio de Janeiro on August 15 and spent a month in Brazil visiting the principal cities and studying the conditions existing in the Republic for the purpose of promoting closer relations between the two countries.—Brazil's THIRD ANNUAL POULTRY SHOW, held in Rio de Janeiro July 30 to August 6, had a greatly increased number of exhibits, and more prizes in cash, cups, and medals were distributed than at any previous exposition.—The exports of CACAO to the United States from Para, Manaus, and Itacoatiara, Brazil, for the year 1915 amounted to 1,209,345 kilograms, and to Europe 3,084,092 kilograms, showing considerable increases over 1914.—The CUSTOMS REVENUES of Brazil for 1915 aggregated 35,306 contos gold and 76,926 contos paper, showing a considerable increase over the preceding year.—The commercial associations of Amazonas, Manaus, and Para, assisted by the State authorities, have subscribed the necessary amount for the erection of a WIRELESS STATION at the mouth of the Acre River.—During the first six months of 1916 the exports of FROZEN MEAT aggregated 12,390,495 kilos, valued at 9,772 contos paper; 4,086,306 kilos of which, valued at 3,138 contos, were exported from Rio de Janeiro, and 8,304,189 kilos, valued at 6,634 contos, from Santos. The countries to which the exports were sent were: Italy, 4,646,512 kilos, valued at 3,717 contos; France, 2,470,746 kilos, valued at 1,843 contos; Great Britain, 2,981,583 kilos, worth 2,379 contos; and United States, 2,291,654

kilos, worth 1,833 contos.—The FOREIGN COMMERCE of the port of Santos, second port in importance in the Republic of Brazil, showed substantial gains in the first six months of 1916 over the corresponding period of 1915. Imports increased from 68,639 contos paper in the first half of 1915 to 100,016 contos in the same period of 1916. Exports increased from 194,902 contos in first six-months period of 1915 to 198,589 contos in 1916. Cotton, coal, iron and steel, drugs and chemicals were the principal products that showed an increase over the imports for the first half of 1915, while frozen meat and rubber were the principal exports that increased. The United States ranked first in the value of merchandise imported, from which country the imports increased from 14,314 contos in first half of 1915 to 29,949 contos in the same period of 1916.

CHILE

■ Chile's production of NITRATE during the month of July, 1916, amounted to 5,312,776 Spanish quintals of 101.4 pounds, against a production of 2,921,613 quintals in July, 1915. Nitrate exports from Chile are rapidly increasing, latest figures for 1916 showing that monthly shipments are about double those of corresponding months of 1915. The budget commission estimates that the exportation of nitrate in 1917 will reach 52,000,000 Spanish quintals. According to estimates of an expert Chilean engineer, Chile's mining and nitrate deposits represent a value of 1,000,000 pesos per inhabitant. Machinery for manufacturing wooden boxes for shipping nitrate has recently been invented by a Chilean, by which system more than 50,000,000 pesos now spent in bags bought abroad would be retained in the country. — The business men of Antofogasta are planning to shortly establish a CHAMBER OF COMMERCE in that city and a committee has been appointed to take the necessary steps in the matter. — The Government of Chile put into effect on July 13, 1916, a new regulation for FOREIGN COMPANIES IN CHILE, requiring representatives and agents of same to declare in writing full particulars of the companies represented, and holding the agents personally responsible for payment of taxes on the possessions of the companies they represent in case of failure on their part to comply with the regulations. — On August 12 the President of the Republic made a tour of inspection of the PORT WORKS OF SAN ANTONIO, and, according to press accounts, was greatly pleased with the progress and development being made. The breakwater has been completed sufficiently to protect vessels anchored in the harbor, and vessels laden with coal for the railways are now arriving regularly. — Expert engineers appointed by the Government to report

on the COAL DEPOSITS in the Department of Lebu estimate that there are about 5,000,000 tons of available coal in that department alone, and it is expected that action will soon be taken toward completing the Lebu-Sauces Railway to exploit these fields.—The Calama Mining Co. has recently sold to the Chilean Exploitation Co., a North American syndicate, for the sum of 7,100,000 pesos, important mining properties owned by it in Calama, Department of Antofogasta.—The CUSTOMS REVENUES of Chile for the first seven months of 1916 were 25,588,958 pesos gold in excess of those for the corresponding period of 1915.—In a book on the RAILROADS OF CHILE recently published by an expert engineer, Sr. don Santiago Marín Vicuña, are found some very interesting and up-to-date data. On January 1, 1916, there were 8,863 kilometers of railways in operation in the Republic, and 206 kilometers of new lines under construction, as follows: Pintados to Iquique, 130 kilometers; Pua to Traiguén, 38, and Quintero to San Pedro, 38. Of the total lines in operation, 5,700 kilometers belonged to the State and 3,163 were owned by private parties. There were 2.45 kilometers of line for every 1,000 inhabitants and 1.15 kilometers for every 100 square kilometers of national territory.—The Bank of Chile has received bids for the construction of its BRANCH BANK, which is soon to be erected at Antofogasta. The new bank will cost more than 1,000,000 pesos.—On August 1 the street railways of Valparaíso reduced the STREET CAR FARES to 10 centavos for first-class and 5 centavos for second class.—A North American syndicate has sent representatives to Chile to negotiate the privilege of exploiting the enormous POTASSIUM SALT deposits of Tarapaca, which are only second in importance to Chile's nitrate deposits.—The total consumption of COAL by Chile in the last four years, 1912-1915, inclusive, aggregates 9,727,761 tons, of which 4,954,803 tons were of national production and 4,772,958 were foreign. Due to the lack of shipping facilities and the inability of securing sufficient foreign coal, it is estimated that the local mines will have to increase by 950,000 tons in 1916 their average for the last four years of 1,238,700 tons per year in order to meet the actual needs of the coal consuming industries.



Dr. Alfonso Robledo has been named MINISTER OF THE TREASURY by the President of the Republic.—According to official data recently published, the value of GOLD EXPORTS in the 10-year period from 1905 to 1915 aggregated a total of 42,081,856 gold pesos. The value of exports of gold increased from 1,616,935

gold pesos in 1905 to 5,453,148 gold pesos in 1915, which shows the great development in the mining industry in Colombia during the last 10 years.—The Senate of the Republic has approved a law authorizing the establishment of PACKING HOUSES on the Atlantic and Pacific coasts for the exportation of frozen meat and also for the creation of bacteriological institutes at suitable places for the sanitation of cattle. The Government will pay 4 per cent interest for four years on capital invested in buildings and machinery for the exploitation of this important industry.—The press of Cartagena announced that the owners of La Heróica flour mills, established in Cartagena, have begun the construction of large concrete buildings, in which RICE MILLS will soon be installed and will be in full operation by the beginning of 1917. The rice is to be grown on land owned by the mill owners, and the estimated cost of land and buildings is 450,000 pesos gold. The mills will have a capacity of 500 bags of rice per day. Colombia sent an EMBASSY, composed of Señores Enrique del Castillo, Pedro Sonderégner, and a secretary, to represent the Government and Colombian people at the centennial celebrations of the Argentine Republic.—Lieut. Col. José Agudo Pintado and Capt. José Osuna Pineda arrived in Bogota from Spain, early in September. Their services have been engaged by the Colombian Government to organize the NATIONAL POLICE FORCE in accordance with the most modern and up-to-date system.—Dr. Roberto Ancizar, secretary of the Colombian Legation in Washington, has been named MINISTER RESIDENT of Colombia at Buenos Aires to Argentina and neighboring republics.—According to *El Correo Liberal*, of Medellin, the Senate approved in August last a law authorizing the National Government to contract abroad a LOAN up to 15,000,000 pesos gold for the sanitation of ports and the construction of public works deemed most important by the Executive. Another law was also approved by the Senate for protection to the CATTLE INDUSTRY, authorizing the National Government to establish premiums for persons who import thoroughbred cattle for breeding purposes. These premiums will amount to as high as 25 per cent of the value of the thoroughbred cattle imported. A shipment made to the United States the last of August, 1916, from the district of Choco, contained the following METALS AND PRODUCTS: 8,720 castellanos of platinum, 6,350 castellanos of gold, 19,700 kilograms of rubber, and 101 ox hides. The *Diario Nacional* of Bogota announces that a COLOMBIAN AVIATION CLUB has been established in the national capital and that Señor Pedro Jaramillo was elected president and Señor Francisco Olaya Gaitán secretary of the club. The object of the club is to promote aviation in the country, and a popular subscription has been opened to raise funds for establishing schools of aviation in the principal cities of the Republic. According to

data published by the Ministry of War, the MALE POPULATION, OF COLOMBIA is 2,393,811, and the Colombian Army can be increased to 1,248,690 men, as follows: Active army, men from 21 to 30 years, 434,080; first reserves, from 31 to 40 years, 284,023; second reserves from 41 to 50 years, 291,966; and from 18 to 20 years, 238,621.—The Official Daily of August 9 publishes the full text of the law passed by the National Congress on August 5, 1916, on the framing, discussion, and promulgation of the NATIONAL BUDGETS.

COSTA RICA

Improvement of highways and an increasing number of automobiles are causing favorable comment in the capital and elsewhere in the Republic. THE NEW ROAD between San Jose and Virilla is fast becoming a popular motor course; work is progressing satisfactorily and ere long many additional miles will be added to the section already completed.—An engineer from the United States will probably be selected by the Government of Costa Rica to make plans and estimates for the construction of a NEW DOCK and other port works at Puntarenas. The work was started a year or two ago by a German engineer, but shortly thereafter was abandoned. Such studies as were completed are on file with the Minister of Fomento in San Jose and may be made the basis for the continuation and completion of the project.—A new comfortable and up-to-date HOTEL has just opened its doors to the traveling public in San Jose. This hostelry is advertised as being modern in every way, with hot and cold water bathing facilities, well-furnished rooms, and other requisites of the traveler which were not hitherto enjoyed in the Costa Rican capital.—A NEW ARTICLE OF EXPORTATION (mineral water) was recently shipped from Costa Rica to Panama. This water is known as Santa Ana, and in Panama and other foreign countries it has been most favorably received and extensively purchased. At first it was not thought that the Costa Rican water could compete with well-known mineral waters which have been on the market for many years in the West Indies. However, recent shipments are indicating an increasing demand for it and the business may develop to large proportions.—The world's demand for petroleum has caused renewed interest in the PETROLEUM FIELDS of Costa Rica and several capitalists and oil experts from the United States have recently made investigations with a view to further extending operations in that part of Central America. Among the names mentioned in this connection are those of George W. Crawford, Joseph C. Trees, M. L. Benedum, and M. C. Treat, all of whom are said to be largely interested in petroleum development in the United

States. — There being no dental college in Costa Rica, many young men of the country wishing to adopt this career have been compelled to seek professional instruction in foreign lands before engaging in the profession. This has worked a hardship on poor but worthy young men, and a recent act of Congress permits those who have been studying under PRACTICING DENTISTS and working along dental lines for six years or more to take an examination, after complying with other requirements, before a dental commission with a view of securing a practitioner's license. — A NEW MAP OF COSTA RICA has been published in San Jose by the well-known house of Trejos & Cia. The map shows latest boundaries, and otherwise delineates the country with considerable detail. It is published in various sizes and colors, and a number of schools have already adopted it in connection with educational work. — The Chilean consul in Mobile, United States, recently visited San Jose relative to increased trade relations between CHILE AND COSTA RICA. The two countries have various products that could be exchanged to advantage and the consul's visit is the first step to increase the trade. Costa Rican coffee is in demand in Chile, and Chile's wines, it is believed, would find a ready sale in Costa Rica.



The Bureau of Immigration of the Government of Cuba has published statistics showing that the immigration to the island during the first six months of 1916 was 54,998, or nearly 12,000 more than during the entire year of 1913. Of the number referred to, 37,879 were males and 17,119 females. The IMMIGRATION into the Republic in 1911 was 38,053; in 1912, 28,296; in 1913, 43,057; in 1914, 25,911; and in 1915, 32,795, or a total of 178,112 from January 1, 1911, to January 1, 1916, of which number 143,554 were Spanish. The new Key West FERRYBOAT, *Joseph R. Parrott*, constructed in the Cramp Ship Yards, Philadelphia, was launched on September 25 last. The maiden voyage of this vessel will be in November next. — The consul of Cuba at Marseille reports that acids made from the SEEDS OF THE AGUACATE and maaney, fruits which grow abundantly in the Republic, are being used in France in the manufacture of toilet soap. — According to press reports the representatives of several foreign corporations are negotiating with MINING companies in the Province of Pinar del Rio for the purchase of mining claims. Of the 2,400 mines denounced in this Province, a number of new properties are now ready or are being put in condition to be worked. In July last the following mines produced copper ores: Matahambre, 100 tons; La Constancia, 1,300 tons; Asiento

Viejo (3 mines), 4,000 tons; Candida, 2,400 tons; Las Merceditas, 830 tons; Buena Vista, 1,600 tons; and Pollak, 300 tons.—The President of the Republic has authorized Rafael Carranza to establish a BATHING RESORT at a place known as El Cayuelo, in Marianao, a suburb of Habana.—The Cuba TELEPHONE CO. has declared a dividend of 12 per cent on its preferred stock, and proposes soon to pay a dividend on its common stock. This company has contracted with the Spanish Bank and Upman & Co., of Habana, for the sale of \$2,500,000 bonds, to be issued at once. The entire issue has been subscribed in the national capital.—Preliminary steps were taken on August 12, 1916, at the Normal School for Teachers in Habana, for the organization of a society for the STUDY OF PEDAGOGICS. A meeting attended by a large number of Cuban educators was held and a committee chosen to draft the by-laws of the society.—According to Dr. Sánchez Curbelo, grand master of the MASÓNIC ORDER in Cuba, there are 106 lodges in the Republic, with more than 10,000 members.—La Lucha, a daily newspaper of Habana, states that the Secretary of Public Works of the Government of Cuba proposes to commission Esteban Duque de Estrada, a Cuban civil engineer in the employ of that department, to go to the United States to investigate and report upon the equipment and operation of INCINERATORS in some of the principal cities of that country, with the view of remodeling the Habana incinerator.—During the month of September, 1916, the SCHOOL OF ARTS AND CRAFTS of Habana was opened for registration. The school has night and day courses, and the curriculum covers three years. Theoretical and practical instruction is given in bricklaying, carpentry, turning and pattern making, cabinet and lathe work, mechanics, blacksmithing, boiler making, plumbing, etc. Special instruction is also given in the higher industrial arts, such as building construction, mechanics, electricity, and chemistry.

DOMINICAN REPUBLIC

According to reports from Azua, large tracts of land are being bought up in the Province of Barahona by a company which intends to establish there shortly one of the largest SUGAR CENTRALS in the Republic, with a yearly output of 1,000,000 bags of 3 quintals each.—The national dredge boat *Ozama* has been engaged in DREDGING the port of Puerto Plata, from which it has removed 200,500 tons of mud since March last.—The National Congress has recently increased to 30 the number of SCHOLARSHIPS open to Dominicans for study abroad. These scholarships are allotted by competitive examinations, and a majority of Dominicans now hold-

ing them abroad are specializing in medicine. It is hoped that with the present increased number available more students will choose civil engineering, agriculture, and other professions.—A new ICE FACTORY was inaugurated the latter part of August in the city of Santiago de los Caballeros.—The *Renacimiento*, a Dominican magazine, published in its first issue of September a number of photographs and gave full particulars of the loss by cyclone of the United States CRUISER "MEMPHIS," at Santo Domingo, on August 29. On September 5 Rear Admiral Pond and the captains of the *Memphis* and *Castine*, with the United States Minister, called on the President of the Republic to express the appreciation of the United States Government for the sympathy and aid extended by the Dominican Government.—According to Las Novedades, of New York, a new BANKING HOUSE is soon to be established in the city of Santo Domingo.—The sugar plantations Porvenir and Santa Fe will soon construct IRON BRIDGES over the Soco River to connect with their railway lines and facilitate the handling of cane. —Rapid progress is being made in repairing and reconstructing the Dominican CENTRAL RAILWAY, and it is estimated the work will be completed within a year. To avoid congestion of freight at certain points, the management has put notices in the Dominican press asking shippers to send in lists of freight they will have for shipment a week in advance, so that a proper distribution of cars may be made to handle same.—The advance figures relative to the CROP OF SUGAR for 1916-17 show 18 per cent excess over the production of the previous year. This is about 37 per cent above the amount for 1914-15. This data has been compiled from information given by the managers of a number of estates. For the 1916-17 production, 746,000 bags are credited to Macoris district, 215,000 bags from Santo Domingo district, and 42,000 bags from Azula district.—The Dominican TOBACCO CROP has been gathered and is now in warehouses awaiting sale. It is believed the yield will be over 200,000 seroons (1 seroon equals 115 pounds), but the lack of shipping facilities will seriously affect the rapid shipment of large quantities. Freight rates average at present about 85 per seroon, and this freight is carried in chartered vessels and the bulk of the shipments go to the Netherlands. —Plans and specifications for the new customhouse at Santo Domingo City may be inspected in New York at the office of the Bureau of Foreign and Domestic Commerce, Room 409, Customhouse. The bids for this work will be opened October 24, 1916, at Santo Domingo City. Credit terms on the various liquors imported into the Dominican Republic usually vary from 30 to 60 days. They are imported through commission houses and bought through traveling salesmen. Weekly steamship service between Santo Domingo City and San Juan, Porto Rico, is proving popular with travelers, as well as supplying needed freight

service. The steamers now operating are the French *Abd-el-Kader*, the Cuban *Santiago de Cuba*, and the Dominican yacht *Mousquetwire*; the latter makes weekly trips between the ports named.—A remarkable increase in customs revenues has been noted by the United States consular agent of the district of Samana, the figures reaching \$81,395 against \$64,269 for 1914. COCONUTS are the chief product and their production is on the increase. New purchasers have been arriving, and this fact has stimulated prices.

ECUADOR

The budget of the Government of Ecuador provides for the expenditure of 1,250,000 sucres (sucre=\$0.4867) for primary INSTRUCTION in the Republic. There are more than 1,000 elementary Government schools in the country with an attendance of from 95,000 to 97,000 pupils. The amount set aside for higher instruction aggregates 363,215 sucres, of which sum 229,629 sucres are for the University of Quito, 89,904 sucres for the University of Guayas, and 43,682 sucres for the University of Azuay. The sum of \$09,697 sucres was appropriated for secondary instruction. The Government also maintains 24 foreign scholarships.—There are 194 POST OFFICES in the Republic of Ecuador, 23 of which are along the line of the Guayaquil to Quito Railway. The postal system embraces 73 land and water routes, which cost the Government 120,000 sucres (sucre=\$0.4867) annually for maintenance. In 1915 there were 7,303,262 pieces of domestic and foreign correspondence received and forwarded and 18,687 pieces of registered mail. The imports by mail consisted of 34,606 postal packages, or 9,595 less than in 1914, the decrease having been caused by the effects of the European war. In 1915 the revenues obtained from the sale of stamps, rent of boxes, etc., amounted to 399,201 sucres. From September 1, 1912, to December 31, 1915, the postal expenses amounted to 913,143 sucres, and the receipts from stamps, box rents, etc., totaled 1,383,659 sucres, or an excess of receipts over expenditures during the period mentioned of 470,516 sucres.—The Republic has 204 TELEGRAPH and telephone offices, employs 579 persons in same, and expended in 1915 in the operation and maintenance of the telegraph and telephone systems 363,960 sucres. The President of the Republic has recommended that the budget for 1917 provide 375,000 sucres for the telegraph service. In 1915 the receipts from the operation of the telegraph lines amounted to 74,396 sucres, and from the telephone lines 19,073 sucres.—In 1915 there were 67,400 BIRTHS, 42,497 deaths, and 10,193 marriages in the Republic.—In 1913 the Government of Ecuador spent for purposes of SANITATION 296,952

sucres (sucre = \$0.4867); in 1914, 290,000; in 1915, 120,000; and up to August, 1916, 60,000 sucres, or a total of 766,952 sucres during the period referred to. — According to information contained in the President's message of August 10, 1916, the Ambato to Curaray RAILWAY has completed 23½ kilometers of line, has 10½ kilometers ready for the laying of the rails, 2½ partly graded, and the permanent survey completed to kilometer 45 on the Pastaza River. The outlay on account of this railway up to the present time amounts to 1,512,331 sucres. The Guayaquil to Salinas Railway has 71 kilometers graded. The cost for survey, materials, construction, etc., amounts to 685,495 sucres. At an expenditure of 302,500 sucres the Babahoyo to Guaranda Railway has graded and made ready 25 kilometers for the laying of the rails. The Trans-Amazon Railway has completed a preliminary survey between Puerto Bolivar and Loja for a distance of 333 kilometers at an expenditure up to the present time of 184,961 sucres. The Bahia de Caraquez to Quito Railway has done construction work up to kilometer 79. The Manta to Santa Ana Railway has finished laying the rails from kilometer 30 to 60. The preliminary survey of the Sibambe to Cuenca Railway has been completed, 5½ kilometers graded, and bridges are in process of construction over the Chanchan and Azogues Rivers. The amount invested in this line up to the present time is 124,772 sucres.

GUATEMALA

El Financiero, a commercial journal of Habana, publishes (Aug. 30) an interesting compilation showing the number of COFFEE PLANTATIONS in Guatemala and the nationalities by which they are promoted or worked. Of a total of 2,079 establishments, 1,657 are operated by native Guatemalans; the Germans come next, with 170 plantations; Spaniards operate 81; Mexicans, 29; French, 21; and the people of various other countries, including 16 United States operations, make up a grand total of 18 nationalities engaged in coffee growing within the bounds of Guatemala. One establishment is operated by a Chinaman, who raised 15 quintales of 101 libras (pounds) last season. The coffee raised at an altitude of from 3,500 to 5,000 feet above sea level is of exceptional merit and stands among the best coffees of the world. The most productive district of Guatemala is known as Costa Cuca. By direction of the President the rates on TELEPHONE AND TELEGRAPH messages over Government lines have been reduced throughout the Republic. The BANK OF GUATEMALA has made public its report showing the amount of business transacted during the first six months of the present year. The statement reflects credit upon those who have

managed the business and should also be pleasing to the stockholders of the institution. The bank's headquarters is Guatemala City.—La Juventud Centro-Americana (Central American Youth) is the title of a new publication of Guatemala City; this journal is the organ of a literary society called El Renacimiento. The society will aim to advance the various abilities of its members and otherwise cultivate in the youth of the country a desire to aid in the upbuilding of the nation. Among the numerous mottoes are to be especially noted the following: "Youth without ideals does not deserve to be called youth," "The country's future depends upon its youth," etc.—Señor Don Felix Calderon Avila has been appointed secretary of the Guatemalan consulate general in San Francisco, and Don Isaac de Hart has received the appointment of VICE CONSUL in La Guaira, Venezuela.—"THE SPANISH CENTER of Guatemala" is the translated name of a new society in the capital city of Guatemala. The object of the union is to develop a better acquaintance among Spanish people residing in the Republic, and all questions of politics, religion, etc., will be strictly avoided. There will be active members who reside in the city and have opportunities for attending the meetings; there will be nonresident members and also honorary members. A large number of Spaniards reside in Guatemala and the new organization will be the means of renewing and keeping alive the memories and life of the mother country.



HAITI

An executive decree of September 13, 1916, published in Le Moniteur, the official organ of the Government of Haiti, grants permission to the HAITIAN AMERICAN SUGAR CO., a North American corporation, with head offices in Wilmington, State of Delaware, and branch offices in Port au Prince and New York, to develop and exploit through its agents sugar plantations, refineries, and other important works connected with the sugar industry. Similar concessions are also granted for the exploitation of coffee, cotton, cacao, tobacco, and indigo. The said company has an authorized capital stock of \$5,000,000, composed of 50,000 shares having a value of \$100 each. According to Le Nouvelliste of September 9, this company will establish in Haiti one of the largest sugar centrals in the West Indies, and proposes to buy large tracts of land for the cultivation of sugar cane, besides buying up all cane produced by small planters.—The municipality of the national capital is making rapid progress in the extensive improvements at Port au Prince, including the SANITATION of the city and paving of sidewalks. The municipal council, with the approval of the Secretary of the

Interior, has recently changed the names of several streets, Grand Street being now called Christopher Columbus Street and Reunion Street is now Edmond Paul Street.—The EXPENSES of the Federal administration, fixed by the President of the Republic, amounted in September, 1916, to 375,053 gourdes national currency and \$36,565.95 American gold.—A recent consular report from the Jeremie district states that imported GOODS sold there are usually bought through commission houses in New York City, who give a 30 days' credit and charge a commission of $2\frac{1}{2}$ per cent or 1 per cent for cash, and generally make no allowance for the discounts allowed by the manufacturers. Importers there, in making cash orders, prefer to deal directly with the manufacturer, if their orders are promptly executed. Correspondence should be conducted in French, if possible; otherwise English is preferable to Spanish, which is little known there.—The Moniteur of September 9 contains an important executive decree relative to ADMINISTRATIVE REFORM in the different departments of the Government.—Arrangements have been made for installing the offices of the FINANCIAL ADVISER in the building formerly occupied by the Department of Public Works.—The Missionary News, published in Boston, states that efforts are being made to establish in Haiti an INSTITUTION similar to the Tuskegee Institution in Alabama, founded by Booker T. Washington, and that contributions to funds for this purpose have already begun to come in.—The SCHOOL CENSUS recently undertaken in certain quarters of the national capital under the direction of the Department of Public Instruction is nearing completion and will disclose some very interesting facts.—Much interest and enthusiasm are being displayed at Port au Prince in the game of FOOTBALL, exciting matches often taking place on the Champs de Mars, attended by music from the marine band. A game was scheduled for September 30 between the marines and the local Olympic team, the latter having won some important victories.—According to the monthly circular of the National City Bank of New York for August, 1916, it has acquired recently all the American interests and also certain foreign interests in the BANK OF HAITI, and will in future largely direct its affairs. The Bank of Haiti, with its nine branches, is the only one on the island and is a French institution.



HONDURAS

The BUDGET of the Government of Honduras for the fiscal year 1916-17, which went into effect on August 1, estimates receipts at 5,476,400 pesos (peso = \$0.50), being 453,020 pesos less than that for the previous year and consisting of import duties, 2,250,000 pesos:

export duties, 200,000 pesos; liquor taxes, 1,200,000 pesos; and miscellaneous, 1,826,400 pesos.—Señor don Froilan Turcios and Dr. Paulino Valladares have been named vice presidents of the permanent INTERNATIONAL PRESS CONGRESS.—The Tela Railway Co. has completed three more sections of RAILWAY from Tela toward El Progreso and now has in operation about 50 kilometers belonging to its main line —According to official figures there were, during 1916, 1,088 manzanas (manzana = $1\frac{1}{2}$ acres) under INDIGO cultivation in the district of Camasca, department of Intibuca, and the estimated production for 1916 in this district is 30,758 pounds of indigo dye, which, at the average price of 4 pesos per pound, would yield 123,032 pesos, national currency. A great increase in indigo cultivation is noted in most of the districts bordering on the Republic of Salvador.—A recent decree grants exclusive rights to Señor Pablo Heller for public AUTOMOBILE SERVICE on certain highways in the Department of Olancha, in consideration of his improving them for motoring.—The National Congress has ratified the TREATY OF COMMERCE negotiated between Honduras and Nicaragua on November 27, 1915.—Certain machinery lacking for completion of the INCINERATING PLANT at Tegucigalpa has been received from the United States and the plant is now in operation.—The first section of the Guangelolo AQUEDUCT, ordered reconstructed by the board of fomento (promotion) of La Paz, Honduras, for the purpose of providing that city with a water supply, was inaugurated on July 12. The total length of the aqueduct will be 6,590 meters, divided into five sections of 970, 950, 950, 2,374, and 1,346 meters, respectively.—Much attention is now being given in Honduras to the WEAVING OF STRAW HATS, and their exportation is increasing. It is claimed that they are fully equal in quality to the famous Panama hats exported from Panama and Ecuador.—The TRUJILLO RAILROAD CO. has received from the United States shipments of heavy steel structural material for the Chapagua and Aguan bridges, and 8 locomotives and 100 cars for service on its lines already constructed.—El Cronista, a daily of Tegucigalpa, advocates in a recent editorial the holding of a CENTRAL AMERICAN JOURNALISTIC CONGRESS, which idea has been enthusiastically received by other papers of the Central American press.—The Government of Honduras has granted a concession to Florián Davadí giving him exclusive rights for a period of 25 years to exploit certain COAL deposits, not to exceed 2,000 hectares in area and situated at Camalote, near the town of El Progreso, in the Department of Yoro.—Practical instruction is now given in AGRICULTURE in most of the schools of the Republic, and the new experimental station at El Tocontin, situated about 5 miles from the National capital, is often visited by student delegations, who are required to perform practical experiments. The experimental work on these

extensive grounds of the State is being rapidly developed and more than 20 varieties of some of the leading kinds of vegetables, cereals, grasses, and fruits are now being tested to ascertain which are best suited to local conditions. Extensive experiments in dry farming are also carried on. It is thought that the practical manner in which the work is being done will be of incalculable value in developing the agricultural resources of the country along the most scientific and approved lines. The work will gradually include every phase of agriculture until a complete experimental station and agricultural school are established.

MEXICO

Throughout all of the Republic, except in the Capital and a few other municipalities, MUNICIPAL ELECTIONS were held early in September in accordance with the executive decree issued on June 13, 1916. — An executive decree of September 20 changed the date for the election of delegates to a CONSTITUTIONAL ASSEMBLY from October 15 to October 22. The assembly will convene at Queretaro November 20 and the first formal session will be held December 1, 1916. — The exports of PETROLEUM from the fields adjacent to Tampico in July last aggregated 2,529,314 barrels, of which 1,375,676 barrels were shipped from Tampico and 1,153,638 from Tuxpam. All petroleum sent from Tuxpam was produced by the Mexican Eagle Oil Co. More than 2,000,000 barrels of the total July exports were shipped to the United States. — According to El Dia of Monterey the outlook for commercial and industrial activity in Mexico is most encouraging and resumption of COMMERCIAL INTERCHANGE between Mexico and the rest of Latin America is being rapidly attained, especially with the Central American Republics. — To promote AGRICULTURE in the State of San Luis Potosí, the Governor of the State has issued a decree granting provisionally to all citizens of the State as much land as they can cultivate. — Two new MILITARY HOSPITALS, fully and modernly equipped, have been inaugurated in Colima and Aguascalientes, and more are planned for other States of the Republic. — A new WIRELESS telegraph station has been installed at Cuernavaca, State of Morelos. — Seven corps of civil engineers are now in the field preparing for the extension and building of railroads by the Government according to an announcement made by the department of communication. Work has already begun on the line that will pass through the States of Yucatán, Chiapas, Tabasco, and Campeche, and which will tap rich agricultural districts. The Government has begun the purchase of rolling stock for the reconstruction and replenishing of the railroads, and recently acquired 30 loco-

motives from the United States.—Reports from the STATE OF DURANGO show great improvement in business confidence and development of commerce. The mines have resumed operations and the output of silver is very large. The mint at Durango is resuming the coinage of silver money for immediate circulation. Conditions from an agricultural standpoint are greatly improved and the recent municipal elections passed off most satisfactorily.—On August 8, at the special invitation of the POTOSI MINING CO., Gen. Jacinto B. Treviño and members of his staff visited the company's works, which are at present in full operation, employing more than 300 workmen.—A company has been formed at Ocampo to construct a FLOUR MILL, which is to become the property of the municipality as soon as established on a paying basis, and all income from the mill is to be applied to the municipal schools.—A recent executive decree permits during the month of September the exportation of chick peas and BEANS through the customhouses of the Republic on payment of the regular duties.—The new TELEGRAPHIC LINE between Moctezuma and Saluaripa, passing through Hermosillo, is nearing completion and will greatly facilitate communications between this important section of the country.—Large and important deposits of QUICKSILVER have been discovered near the city of Guadalajara and steps have been taken for their immediate exploitation.—According to press reports, in August last a gusher was struck in the TAMPICO OIL FIELDS which has been conservatively estimated to have a production of 328,000 barrels every 24 hours and is considered one of the best producing wells in the world.



NICARAGUA

The municipal authorities of Bluefields are considering the question of providing the city with an adequate LIGHTING SYSTEM. A proposition has been made by Mr. J. C. Smith, who would supply at least 200 incandescent street lights of 500 candlepower each for a specified sum. The proposition was referred to a committee. The present lights of the city are said to be far from satisfactory and the expense attached is excessive. Provided the committee takes favorable action, the merchants and many private citizens are likely to agree to install electric light; this fact will give the promoter of the enterprise a still wider field. Newspapers of Bluefields are active in the propaganda for more light.—The general manager of the Bank of Nicaragua, Mr. H. N. Lawder, recently made a five-days' journey via the San Juan River route from Managua to Bluefields. Speaking about the PROPOSED RAILWAY known locally as the "Atlantic Coast," Mr. Lawder expressed an optimistic view, expecting the work to be started within the coming year.—The American, the well-

known newspaper published at Bluefields, contains an interesting description of certain mining regions of Nicaragua in its issue of September 15, written by Alfred W. Hooker. After an absence of about 20 years Mr. Hooker made the journey through sections he had previously known, and his comments on progress of commerce and industry along the way are of especial interest. Speaking of the works of the Eden Mining Co. the writer says it is difficult to describe what those activities mean to the district of Pispis. It may be justly termed the key to future operations. —Nicaraguan newspapers speak in glowing terms of the work of one of her sons, whose skill has been recognized in many other countries, and whose recent appointment to the position of professor of TROPICAL DISEASES in the University of Pennsylvania gives wide satisfaction. The name of this distinguished medical authority is Dr. Damaso Rivas. He has served on a number of investigating commissions, among which may be mentioned the expedition to Central and South Africa for the purpose of studying sleeping sickness, malaria, etc. —The BLUEFIELDS ICE & BOTTLING WORKS has recently acquired new properties and interests and it is reported the company will branch out into other lines of business. Mr. Henry F. Springer is the manager of the enterprise. —The Eden Mining Co. has ESTABLISHED A SCHOOL for the benefit of children of the district in which their mines are located. Books, school furniture, and maps, together with one or more teachers, are provided free of cost, and the school has already opened its doors. —After three months in the interior of the country the BLUEFIELDS BASEBALL CLUB returned home. The members not only engaged in playing baseball at many towns and cities along their route from the Caribbean coast to the Pacific, but also conducted athletic contests and otherwise provided amusement. —Dr. I. J. Kheiralla and Mr. Knapp recently arrived in Nicaragua as officials of a syndicate that purchased certain coconut lands. The officials were accompanied by a United States Government expert from the Canal Zone, Mr. O. W. Barrett, who will give the undertaking a thorough study as well as professional advice as to the best manner of establishing the enterprise on a firm basis.



On August 23 a branch of the Latin American INTELLECTUAL SOCIETY was established in the national capital with Don Guillermo Andreve as president. A full board of officers was elected. More than 40 persons eminent in letters attended the first meeting at the National Conservatory. — The new TELEGRAPH LINE between David and Panama City has recently been completed and put in

operation.—The Government of Panama has contracted with the Panama Jockey Club for the building of a large HIPPODROME at El Hatillo, near the exposition grounds in the suburbs of the city of Panama, the estimated cost of which is approximately \$100,000.—The Official Gazette of Panama of July 31, 1916, contains a decree restricting the storing of EXPLOSIVES and COMBUSTIBLES in the federal capital and approving in full the rules and regulations recently issued by the fire department on the matter.—During July last 150 vessels passed through the PANAMA CANAL, 77 entering from the Atlantic side and 73 from the Pacific. By nationality the vessels were as follows: United States, 28; British, 75; Japanese, 11; Peruvian, 9; Dutch, 2; Chilean, 7; Norwegian, 9; Swedish, 3; Mexican, 1; French, 1; Danish, 3; and Panaman, 1.—Out of a total number of 6,772 Americans occupying Government houses in the Canal Zone, 3,747 are men, 1,454 women, and 1,571 children. Out of 10,925 West Indian negroes occupying Government houses, 5,880 are men, 2,188 women, and 2,857 children.—According to the official report of the health department, SANITARY CONDITIONS in the Canal Zone and in the cities of Panama and Colon are most satisfactory.—The joint land commission has rendered a decision awarding \$120,000 in payment for the VENADO PLANTATION, in the Canal Zone, about 5 miles from Balboa and across the canal from it. This is one of the largest awards made so far by the commission and is for 600 acres of the best improved coconut land along the Pacific coast.—Congress has authorized the President to contract for the construction of a branch line of the CHIRIQUI RAILWAY from Concepcion to Divala, in the Province of Chiriquí. The new line will open up a very rich agricultural district.—August 31 was the last day for entering original literary productions in competition for the valuable prizes offered by the organizing committee of FLORAL GAMES, which were celebrated in Panama City on October 12, 1916, in honor of the three hundredth anniversary of the death of Miguel de Cervantes. It is reported that the number of works sent in was very large.—Dr. Readers, the eminent throat specialist, who was formerly connected with the Ancon Hospital, has been named director of the new HOSPITAL of Panama City.—According to statistics of the recorder's office, the Province of Panama during the year 1915 had on record 70,551 hectares of farm LAND and 157 hectares of city land. The Province of Colon had recorded 1,258 hectares of farm land and 4 hectares of city land.—During 1915 ten ARTESIAN WELLS were drilled in the Province of Los Santos, varying in depth from 85 to 420 feet, and having a minimum capacity of 500,000 gallons of fresh water every 24 hours.—The Official Gazette of Panama, of July 15, 1916, gives an important executive decree regulating SANITATION in the cities of Panama and Colon.

PARAGUAY

President Manuel Franco and Vice President José P. Montero were formally inaugurated in Asuncion on August 15, 1916. The transmission of the executive power is an important event in the history of the country, and the occasion was celebrated with unusual spirit and enthusiasm. Many distinguished embassies came on special mission from the neighboring sister Republics and participated at the various functions. In connection with the inaugural ceremonies, addresses were delivered by the retiring President, Dr. Eduardo Schaerer, and by the President elect, who outlined briefly the proposed policy during his administration. One of the many interesting features of the inauguration was the part played by the boy scouts of Paraguay in the parade. Dr. Franco's CABINET, as given by the Asuncion press, is as follows: Minister of the Interior, Dr. Luis A. Riart; Minister of Foreign Relations, Don Manuel Gondra; Minister of Finance, Dr. Eligio Ayala; Minister of Justice and Public Instruction, Dr. Félix Paiva; Minister of War and Marine, Dr. Ernesto Velázquez. — The citizens of Paraguay residing in Buenos Aires have organized a society called EL CENTRO PARAGUAYO to strengthen the ties which unite the two nations, and will soon inaugurate a gymnasium and hall of exhibits of Paraguayan products. — The BANK OF THE REPUBLIC has recently published its report for the year ending June 30, accompanied by a balance statement which indicates large net profits and a most successful year's business. The Bank of the Republic, which was established in 1915 in Asuncion, pays an annual dividend of 6 per cent. — During the past year considerable interest has been shown in the CATTLE INDUSTRY of Paraguay. A new company has been organized in Asuncion, with D. Luis Perasso as president, for the establishment of a refrigerating plant. According to the Revista de Comercio of Asuncion, the PARAGUAYAN CHACO is rich in forests of quebracho timber that could be converted into quebracho extract at a considerable profit. It estimates the cost of production of a ton of extract at 90 pesos Argentine paper, which finds a ready sale at 240 pesos gold per ton. Cost of installing plant for manufacturing it is estimated at from 150,000 to 500,000 pesos Argentine paper. Estimating the total output of the plant at 6,000 tons of extract at a cost of 540,000 pesos Argentine paper, there is left a net profit of 2,800,000 pesos Argentine paper. The transactions of purchase and sale of REAL PROPERTY in the Republic during the year 1915 amounted to 41,520,329 pesos, currency, and 1,303,510 pesos, gold. At the recent Historical and Bibliographical Congress, held in Buenos Aires in connection with Argentina's centennial

celebrations, the PARAGUAYAN EXHIBITS received special mention for their number and importance.—A petition has been made to the Paraguayan Congress by Mr. John Pope, representing a North American syndicate, for the establishment of a plant to manufacture QUEBRACHO EXTRACT in Paraguay. An exemption from all import duties is asked on materials necessary for constructing the plant.—In June, 1916, the FOREIGN COMMERCE of Paraguay showed considerable increase over the corresponding month of 1915. Imports increased from 199,476 gold pesos (gold pesos=\$0.9648) to 359,444 pesos, and exports from 487,314 to 491,148 pesos gold. In the first six months of 1916 the balance of trade in favor of the Republic amounted to 1,314,613 gold pesos.



The FOREIGN COMMERCE of Peru in 1915 amounted to £17,218,616, the highest figure ever reached, as compared with £13,595,720 in 1914, showing an increase of 26 per cent. The exports in 1915 amounted to £14,123,071, against £8,765,122 in 1914, showing an increase of £5,357,949 in 1915. The imports in 1915 amounted to £3,095,544. In 1915 the value of exports exceeded that of imports by £11,027,527, as compared with £3,937,831 excess of exports over imports in 1914.—FREIGHT TRAFFIC on the Arica-La Paz Railway increased from 37,972 tons in 1913 and 54,325 tons in 1914 to 71,962 tons in 1915.—According to information furnished by the auditor's office, the CUSTOMS RECEIPTS of the Republic for the first six months of 1916 amounted to 445,524 Peruvian pounds, as compared with 347,213 pounds for the corresponding period of 1915.—A bill before the present Congress provides for LOANS to FARMERS on security other than land and is intended to extend credit at lower rates of interest to farmers who are not landowners on their farm machinery, live stock, crops under cultivation, and other agricultural resources they may possess.—For the purpose of encouraging the RUBBER industry in the great rubber-producing sections of Peru the President has issued a decree reducing the export duty on rubber. Rubber exported through the customhouses of the Madre de Dios River region and its tributaries and through the port of Mollendo will pay export duties as follows: Two per cent on rubber the London quotations of which fluctuate between 25d. and 36d. per pound, 4 per cent on rubber fluctuating between 37d. and 48d., and 6 per cent on rubber quoted at 49d. and over. The export duty on the lower grades of rubber is based upon the same scale less a discount of 30 per cent. Exports of rubber from the

Madre de Dios district during 1915 showed a considerable increase over that shipped during the previous year, 320,698 kilos being exported via San Lorenzo. — Experiments in COTTON CULTURE in the Loreto district have been very successful both in the yield and the quality produced. Increased distribution of seed and acreage for the coming year insure a permanent importance to the new industry. — According to the press of Lima, a Peruvian has invented an AEROPLANE called "automatic electrical pilot," which, as the name implies, can navigate successfully without a pilot and descends wherever desired, exploding bombs and torpedoes carried by it on coming in contact with the earth. The proposed BUDGET of the Peruvian Government for 1917 shows expenditures aggregating £3,412,237. The expenditures in detail are as follows: Congress, £108,321; department of home affairs (Gobierno), £553,749; department of foreign relations, £58,667; department of justice, £554,564; department of finance, £1,296,589; department of war and marine, £641,608; and department of fomento (promotion), £198,736. — According to statistics of the department of agriculture, the production of SUGAR has increased from 178,533 tons in 1911 to 262,841 tons in 1915. Exports of sugar increased from 122,871 tons in 1911, valued at £1,448,990, to 220,258 tons in 1915, valued at £5,577,869, showing an increase in value in 1915 over 1911 of £4,128,879. — In his recent MESSAGE to Congress Dr. José Pardo, President of the Republic, devotes special attention to the economic problems that affect the country at the present time and states that the international affairs of Peru and the economic outlook are most satisfactory. The revenue receipts for the first half of 1916 amounted to 1,681,607 Peruvian pounds, which are now quoted at par, \$4,8665, the total budget of expenses estimated for the year 1916 aggregating 3,097,029 Peruvian pounds.

SALVADOR

The memorial of PUBLIC INSTRUCTION, presented to the National Congress by Dr. Francisco Martinez Suarez, Minister of Education, contains much general information concerning the progress of education of the Republic. There are a total of 876 primary schools, beside a number of higher institutions and colleges. Great attention has been paid to the education of teachers, and the normal college has been very successful in its training, as reflected in the equipment of teachers supplied to the various schools. Professional instruction is well provided for in the following lines: Jurisprudence and social science, medicine, dentistry, chemistry and pharmacy.

In the first-mentioned course there were 84 students; medicine held the attention of 81; chemistry and pharmacy, 8; while there were 10 students of dentistry. For the year for which the report was made (1915) the Minister of Education had for educational purposes the sum of 1,071,333 pesos (a peso is worth about 44 cents United States money).—The national library in San Salvador had during the last fiscal year 29,164 READERS. Many important volumes were added to the library shelves, and an especially large gift of books was presented by the Hispanic Society of New York. At the head of the library is Don Francisco Gavidia, the prominent writer and literary authority of the country. The library is open days and evenings.—The Chamber of Commerce of San Salvador is preparing to publish a bulletin containing especially the **COMMERCIAL NEWS** of the Republic. The new journal will endeavor to call attention of the world to the possibilities of Salvador and the many dormant products that might be developed were sufficient capital available. The public announcement states that the business men of Salvador believe that after the termination of the European war there will be a great demand for all kinds of raw products, many of which may be bought from Salvador.—In the Congress on Child Welfare recently held in Buenos Aires the **DELEGATE FROM SALVADOR**, Don Gustavo A. Ruiz, was the recipient of unusual honors for the reason that his papers and addresses were of exceptional merit and of vital importance to the promotion of the work of the congress.—El Diario Oficial of August 30 contains a text of the **NEW INCOME TAX** law of Salvador. Taxes are levied on professional fees, salaries, land rents, house rents, interest on capital, etc. Corporations are not included under the new regulations; a list of stockholders showing the profits of each person, however, must be presented to officials of the Government.—Under the direction of the recently organized Bureau of Roads (Direction General de Caminos) studies and investigations will be made relative to connecting certain old roads and improving the same, building bridges, and otherwise improving the **TRANSPORTATION FACILITIES** of the country.



URUGUAY

The **BUDGET** for the fiscal year 1916-17 as approved by Congress calls for expenditures of 29,521,666 pesos (peso=\$1.034) and estimated revenues of 29,451,428 pesos. The principal items of the estimated revenue are: Customs duties, 12,250,000 pesos; property taxes, 4,160,000; trade licenses, 1,600,000; tobacco taxes, 1,200,000; public instruction taxes, 1,219,000, etc. If the amount allowed in the budget should be insufficient, the President is authorized to ask for additional funds from Congress. The budget does not include various special services, for which provision is made by special revenues. It covers only administrative revenues and expenditures, and is not a complete statement of the entire national revenue and expenditure.—The **TABLADA RAILWAY** was opened to public service on August 4, 1916. The line runs from Sayago station to the Tablada

ranch, a distance of over 2 miles, and was constructed under the direction of the engineering department of the Central Railway of Uruguay. — The yield in the 1915-16 WHEAT CROP so far tabulated shows a great increase over that of the previous year, 1914-15. During the first three months of 1916 the production amounted to 222,283,550 kilograms, against 90,269,037 in the corresponding period of 1915. — Congress has passed a new law on INHERITANCE TAXES, taxing the inheritances of near relatives from 1 per cent on sums from 500 pesos to 2,500 pesos to 7 per cent on sums over 250,000 pesos. The rate on the inheritances of strangers and distant relatives varies from 11 per cent on sums over 300 pesos to 27 per cent on sums over 250,000 pesos. — The Bureau of Civic Statistics has recently issued its report on the VITAL STATISTICS of Uruguay for 1915, according to which the births total 38,046, against 38,571 in 1914, of which 19,772 were males and 18,274 females. Of the total births 9,650 were in the Department of Montevideo and 28,396 in the rest of the Republic, 21,600 being of Uruguayan parents, 3,012 of foreign parents, and 13,434 of mixed origin. Marriages totaled 5,758, against 6,073 in 1914, 2,141 being in the Department of Montevideo and 3,617 in the rest of the Republic. Four thousand two hundred and thirty-five were marriages between Uruguayans; 607 between foreigners; 198 between Uruguayan male and foreign female; 718 between foreign male and Uruguayan female. Deaths totaled 16,602, against 15,350 in 1914, 13,104 being Uruguayans; 3,411 foreigners; 87 unknown; of which number 6,471 occurred in the Department of Montevideo and 10,128 in the rest of the Republic. — A recent decree of Congress provides that plans must be submitted within one year for the approval of Congress for DREDGING and canalizing the Miguelete River, which runs through Montevideo, and for the creation of an avenue on each bank of the stream. — According to official figures the total number of voters registered in the whole Republic, out of an estimated population of 1,100,000, is 223,020, of whom 62,136 are registered in Montevideo. According to *El Dia* the total number of votes cast in the recent elections was 156,214, which is without precedent in Uruguay, the largest number voting in any previous election being about 32,000 or 33,000. — Congress has recently passed an important law on INDUSTRIAL INSTRUCTION, which will greatly increase practical instruction throughout the country. The law calls for the creation of primary and secondary industrial schools, normal industrial schools, and free day and night courses for workmen who wish to perfect themselves in their particular line of work. A board of industrial education will be named by the President to outline courses of study and direction of the instruction will be supervised by a national inspector. A bill recently introduced in the Uruguayan Congress provides for the substitution of an ad valorem duty of 12 per cent for the present duties based on fixed valuations applicable to certain kinds of silk goods. The classes of goods affected are gloves, handkerchiefs, veils, tulle, satin, and various fabrics, whether of pure silk or containing other fibers in a proportion not exceeding 70 per cent. Present duties, except those on gloves, are 31 per cent on a fixed valuation ranging from 6 to 30 pesos per kilo, and to these are added surtaxes amounting to 14 per cent of the official valuation.

An executive decree of August 11 provides for the construction of a great national highway from Caracas to San Cristobal, to be called the GRAN CARRETERA OCCIDENTAL DE VENEZUELA (Great Western Highway of Venezuela), which will traverse the States of Miranda, Aragua, Carabobo, Cojedes, Portuguesa, Zamora, and Tachira. The decree specifies that the ministry of public works will provide funds and carry out this important work.—The judges in the competitive POETICAL CONTEST held under the auspices of Panorama, a daily newspaper of Maracaibo, to stimulate the study of the fine arts in the Republic, awarded the prize for the best poem to Señor Udón Pérez, for his poem entitled "Lux Victrix."—The Official Gazette of August 31 last contains the full text of the NEW CIVIL CODE recently passed by Congress and promulgated by the President. The code consists of three books and contains 2,064 articles.—According to statistics published by the department of fomento (promotion), the POPULATION of Venezuela on Dec. 31, 1915, was 2,818,220 inhabitants, 136,618 of whom resided in the Federal District. The increase in population during 1915 was 12,904. These statistics are not complete, owing to incomplete returns from the State of Zulia and the Territory of Amazonas.—According to the new law on MORTGAGE BONDS (cédulas hipotecarias) recently passed by Congress, the bonds will be issued only on unencumbered property and for a period of not more than 10 years. The law gives full details as to payment of interest and amortization.—Several new companies have been organized in different cities of Venezuela for drilling ARTESIAN WELLS, a company at Coro, State of Falcon, with a capital of 45,000 bolivars, being one of the most recent.—According to recent estimates of the new SUGAR CROP, given in El Avisador of Buenos Aires, the Venezuela Sugar Co.'s central, near Lake Maracaibo, will produce during the present season 300,000 quintals of sugar, worth \$1,500,000. The calculation is based on the 2,500 cuadras (cuadra=4.2 acres) of cane the company has under cultivation, allowing a yield of 10 per cent of sugar for the new crop, as last year's crop was the first harvested by the company and produced 8 per cent of sugar.—Work is being rapidly pushed in PAVING and constructing sidewalks on the principal streets of the city of Maracaibo, capital of the State of Zulia. Electric cars are also being installed on most of the street car lines.—An executive decree of July 27 opens to public service a recently constructed branch of the BOLIVAR RAILWAY, between Palma Sola and San Felipe.—The GOOD ROADS movement is receiving especial attention at present in all sections of Venezuela. One of the most recent roads to be projected is from Coro to Maracay, connecting more closely the two important neighboring States of Falcon and Zulia. Work is almost completed on the Maracaibo-Bella Vista road.—The Official Gazette of July 31 publishes the law passed by Congress regulating the duties and functions of the ATTORNEY GENERAL of the Republic.—The Government has recently completed important sanitary works for the LEPROSY colony of Providencia Island, State of Zulia, where a number of cases are being treated according to the most modern scientific methods.



ARGENTINA • BOLIVIA • BRAZIL • CHILE • COLOMBIA • COSTA RICA • CUBA • DOMINICAN REPUBLIC • ECUADOR • GUATEMALA • HAITI

NOVEMBER • • • • • 1916

BULLETIN OF THE PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁNES, ASSISTANT DIRECTOR.



CENTRAL PARK, HAVANA, CUBA
STATUE OF MARTIN FUREZ

GOVERNING BOARD OF THE PAN AMERICAN UNION

ROBERT LANSING, Secretary of State of the United States,
Chairman *ex officio*.

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Argentine Republic....Señor Dr. RÓMULO S. NAÓN,
Office of Embassy, 1806 Corcoran Street, Washington, D. C.
Brazil.....Senhor DOMICIO DA GAMA,
Office of Embassy, 1780 Massachusetts Avenue, Washington, D. C.
Mexico.....(Absent.)

ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY

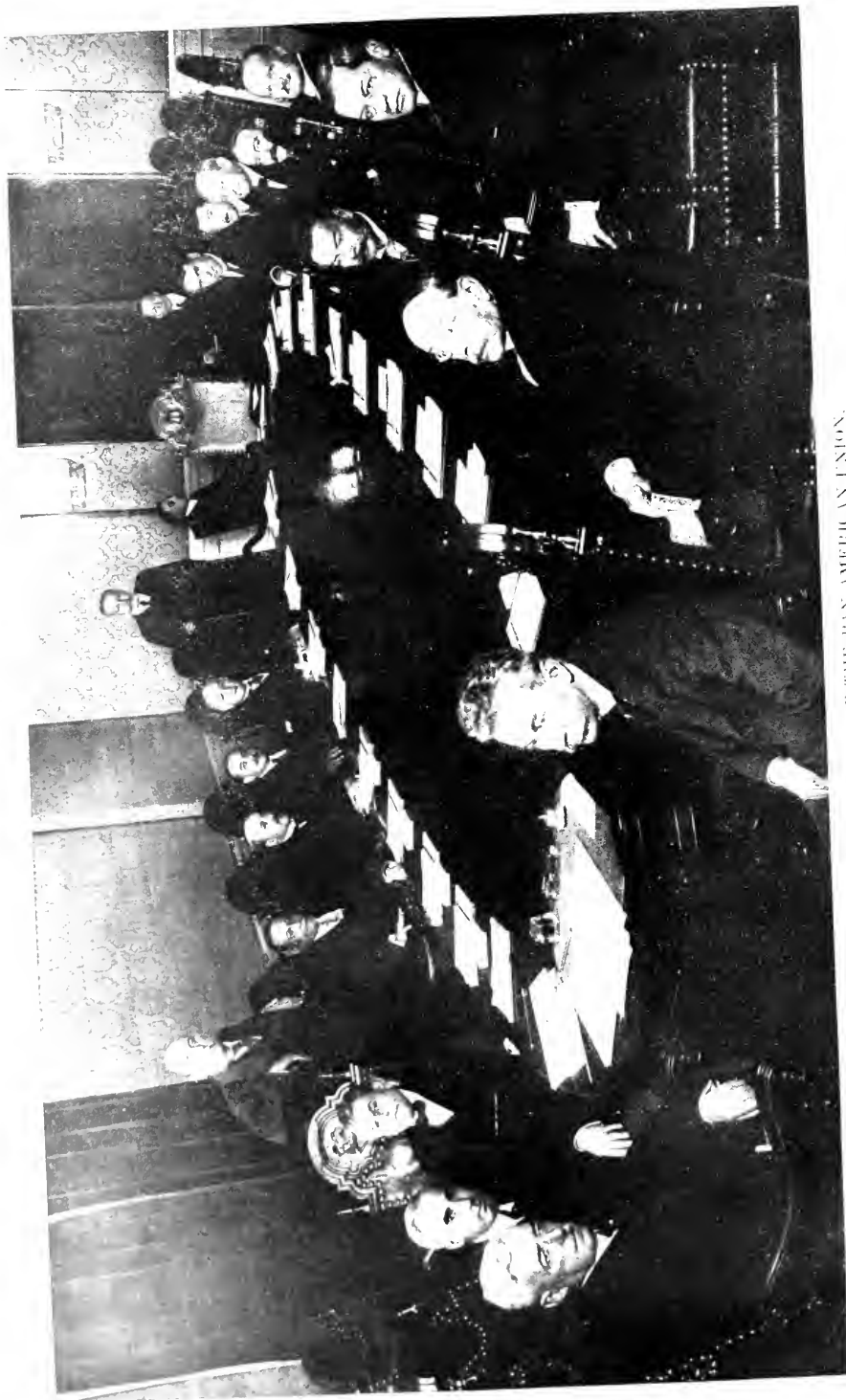
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Office of Legation, 1319 K Street, Washington, D. C.
Costa RicaSeñor Don MANUEL CASTRO QUESADA,
Office of Legation, 1501 Sixteenth Street, Washington, D. C.
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Office of Legation, 1529 Eighteenth Street, Washington, D. C.
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Office of Legation, "The Champlain," Washington, D. C.
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Office of Legation, 604 Riverside Drive, New York City.
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Office of Legation, 1604 K Street, Washington, D. C.
Haiti.....M. SOLON MÉNOS,
Office of Legation, 1429 Rhode Island Avenue, Washington, D. C.
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Office of Legation, Hotel Gordon, Washington, D. C.
Panama.....Señor Dr. BELISARIO PORRAS,
Office of Legation, "The Portland," Washington, D. C.
ParaguaySeñor Dr. HÉCTOR VELÁZQUEZ.¹
Office of Legation, 1768 Woolworth Building, New York City.
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Office of Legation, 1800 Connecticut Avenue, Washington, D. C.
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Office of Legation, 1734 N Street, Washington, D. C.
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Office of Legation, 1406 Massachusetts Avenue, Washington, D. C.

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Nicaragua.....Señor Dr. JOAQUÍN CUADRA ZAVALA,
Office of Legation, "The Portland," Washington, D. C.
Peru.....Señor Don M. DE FREYRE Y SANTANDER,
Office of Legation, 1737 H Street, Washington, D. C.

¹Absent.

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THE GOVERNING BOARD OF THE PAN AMERICAN UNION.

The photograph was taken on the occasion of the first winter meeting, November 1, 1906. Beginning with Secretary of State Robert Lansing, chairman ex officio, who sits at the head of the table, the eight persons seated on the left of the table are, in order, as follows: Señor Dr. Romulo S. Neco, ambassador of Argentina; Señor Dr. Carlos M. de Céspedes, minister of Haiti; Señor Dr. Santos A. Domínguez, minister of Mexico; Señor Don M. de Freyre y Santander, chargé d'affaires of Peru; Señor Don Cayetano Múñizaga Vardía, chargé d'affaires of Chile; and Francisco J. Yanes, as on the right of the Secretary Lansing. Beginning with the Pan American ambassador, Señor Domingo de la Gama, who is seated on the right of Secretary Lansing, the eight on the right-hand side of the table are, in order, as follows: Señor Dr. Rafael Méndez, minister of Guatemala; Señor Dr. Alberto Mendieta, minister of Cuba; Señor Dr. Rafael Zaldívar, minister of Honduras; Señor Dr. Gonzalo S. Cardona, minister of Ecuador; Señor Dr. C. M. de Cespedes, minister of Cuba; Señor Dr. Rafael Zaldívar, minister of Honduras; Señor Dr. Gonzalo S. Cardona, minister of Ecuador; Señor Don J. E. Lefevre, chargé d'affaires of Panama. Unavoidably absent were the ministers of Nicaragua and his credentials.



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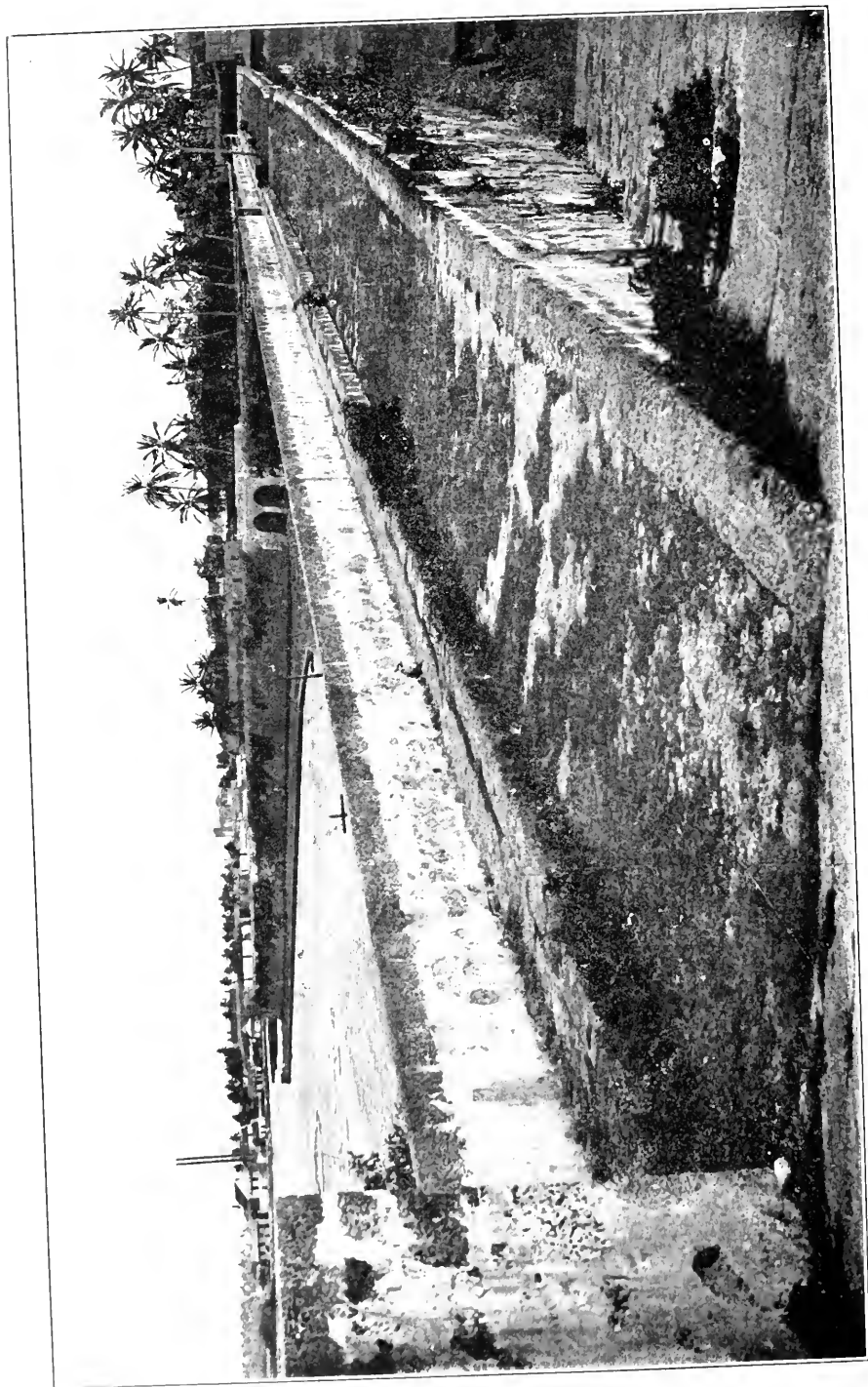
SOUTH AMERICA AND THE TOURIST: CARIBBEAN NA- TIONS¹ .. ' ' .. ' ' ..

AT THE close of our last article the tourist was arriving in the Bay of Panama after several months of sightseeing in South American countries. Before being permitted to land in the Canal Zone, however, medical officers of the United States Public Health Service board the ship as she lies at anchor in the bay and carefully examine passengers relative to health conditions. If the vessel has called at the more northern ports of the west coast, it is likely that all voyagers will be required to spend several days in quarantine; the exact time of detention depending upon circumstances—the period that has elapsed since they boarded the ship, and the health conditions prevailing at the port of embarkation.

The idea of being quarantined is looked upon by most persons with more or less dread or even danger, when in reality it is a precaution to themselves as well as to the general public. Let us glance at what the medical authorities exact of the incoming voyager from South America when he arrives at Balboa, the Pacific entrance to the canal.

A small launch conveys the passenger from the ship to the quarantine station. One dollar is charged for the little sail of a mile or two, the price including the transfer of the small hand baggage of the traveler. This station is now located on the mainland, near the mouth of the canal. Buildings with screened porches and windows are new and numerous and, of course, model structures in sanitary design and cleanliness. Walks and drives have been constructed

¹ By William A. Reed, Pan American Union staff.



CARTAGENA, COLOMBIA.

A section of the great wall that once surrounded the city. To-day this is one of the most interesting sights for the foreign visitor.



MAGDALENA RIVER STEAMERS.

"From Barranquilla to Dorado, 940 miles up the Magdalena River, one travels by the Columbia Railway & Navigation Co.'s steamers, which are of the stern-wheel type. The large boats of the line were built in Pittsburgh, and have modern cabins, electric fans, and other conveniences."

and the growing shade trees will ere long make the grounds more attractive. Plain rooms with clean beds are provided, three wholesome meals daily are served, and within the grounds the enforced guest may walk here and there at will, although military and medical exactness prevail. About twice daily the temperature of each person is taken, and for this purpose all are assembled in the large dining hall at specified hours. Those with abnormal temperatures are more closely watched, or possibly removed to other buildings, so that in case of the development of a contagious disease the person afflicted is not a menace to others, and also receives the best medical attention by specialists.

Panama and the canal have been so frequently described in detail that they require no attention here. The two fine hotels, the Tivoli at Panama and the Washington at Colon, respectively, conducted under the auspices of a department of the canal government, afford delightful accommodation for the tourist. Other hotels at either place are patronized by those wishing less expensive accommodation. Ancient Panama about 7 miles distant from the present city, should of course, be seen by the tourist. A fine new highway connects the two places.

Comparatively few travelers who have made the long tour of the South American Continent care to continue the voyage to the several countries bordering on the Caribbean without a period of rest. They usually return to the United States directly from Colon, and possibly visit the Caribbean nations on one of the many winter tours so extensively advertised by steamship and tourist companies.

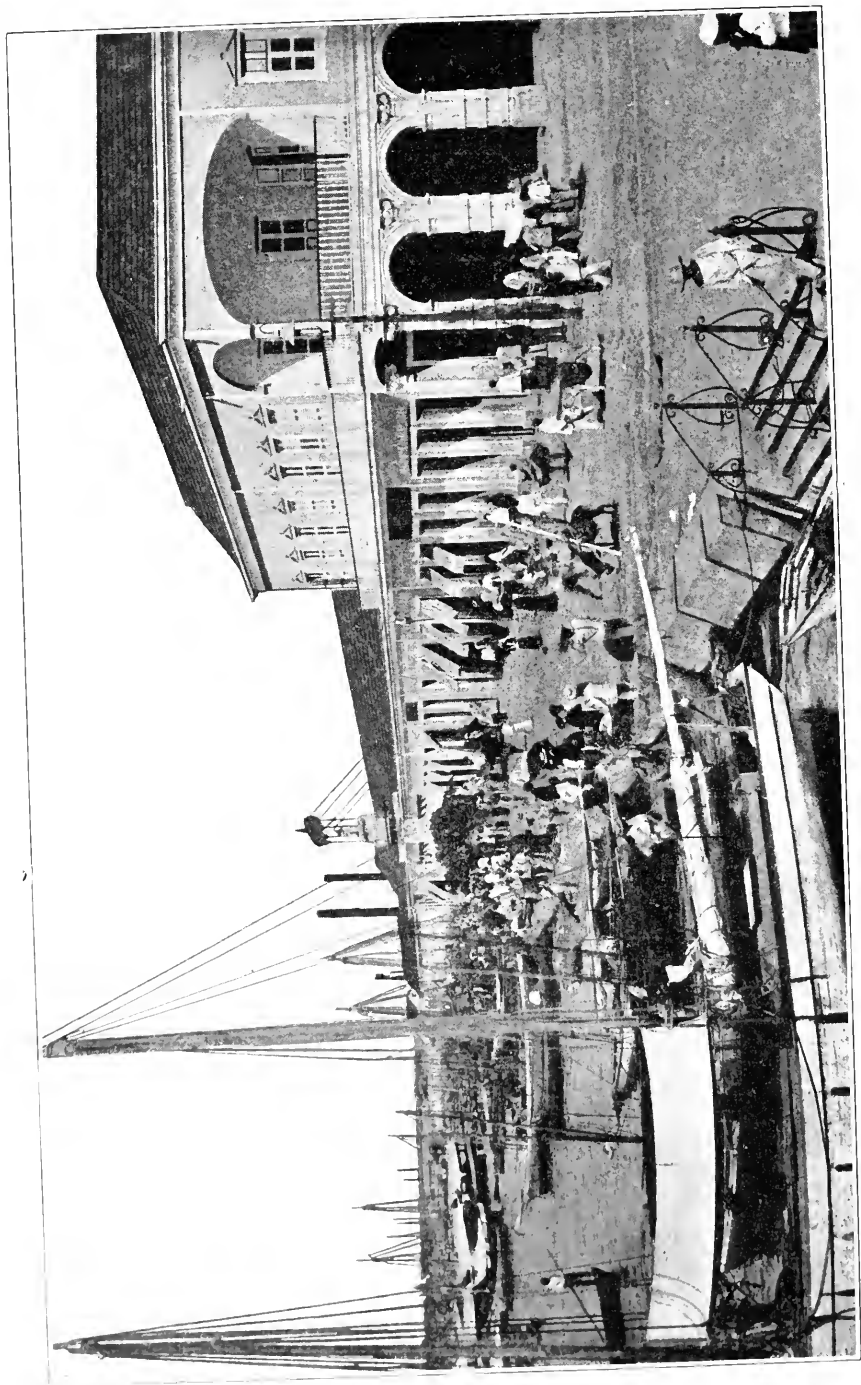
However, to continue our sightseeing in South America we shall proceed from Colon to Colombia and Venezuela, and from the latter country voyage homeward via the Leeward Islands to New York. From Colon there are in normal times sailings of passenger ships once a week or oftener touching at Cartagena, Puerto Colombia, Santa Marta, Puerto Cabello, La Guaira, Trinidad, and Barbados. Service to these ports is maintained by Italian, Spanish, French, Holland, English, and to some of them by American lines; the former trade to the various ports of Europe. One may cross from Colon to Cartagena, 280 miles and about one day's sail, by the United Fruit Line and later continue eastward by vessels of the other lines.

Cartagena, with a population of about 30,000, is one of the oldest cities of Colombia, and its harbor ranks as the best of the country. Distance from New York is 2,300 miles. Passengers are landed at piers instead of by small boats. One of the interesting sights is the famous wall that once surrounded the city; it is sufficiently wide in places to admit a carriage and horses. Coaches are available at about \$1 an hour for sightseeing in or near Cartagena; and this drive should include Manga, Espinal, Cabrero, and Pie de la Popa. Automobiles are growing in number, but the excessive cost of gasoline



SCENES IN COLOMBIA'S CAPITAL

Upper: The national capitol at Bogotá. Center: The Avenida de la República. Lower: On the Plaza de Bolívar, the edifices shown forming one side of the Plaza.



NEW MARINA STREET, MARACAIBO, VENEZUELA.

This is a busy port on the lake of the same name. A large commerce is carried on with Cúcuta in Colombia as well as with the various interior cities and towns of Venezuela. There is direct steamship connection between Maracaibo and New York.

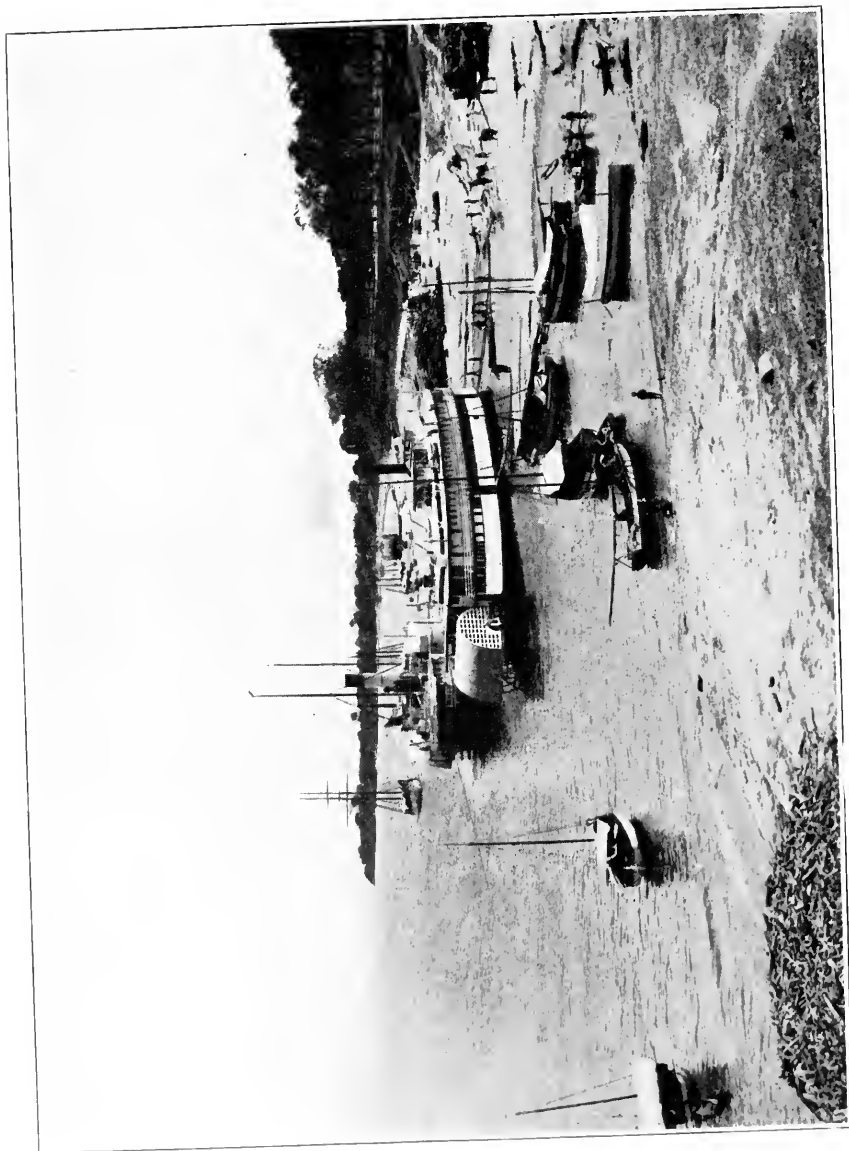
makes their use expensive. Other places which the stranger should see are the ancient Fort of San Felipe, La Popa Castle, the Tombs, Government Palace, Palace of Inquisition, and the several cathedrals.

The average sightseer has not time for the long and somewhat tiresome journey to Colombia's capital city, Bogota. However, the tourist and the business man are going farther and farther from beaten paths, and we will suppose that the tour includes a visit to that inland city. The best route at the present time is as follows: From Cartagena there is a daily train to the port of Calamar on the Magdalena River, 64 miles distant. First-class fare is \$2.50. From Puerto Colombia the Magdalena is reached by narrow-gauge railroad, 17 miles long, connecting the sea port with the river at Barranquilla. Owing to the presence of sand bars the mouth of the Magdalena is obstructed and ocean ships do not make ports on that river.

Barranquilla has about 40,000 people and is an active business place. The trade winds from November to April temper the tropical heat. It is the starting point for upriver craft of various descriptions, all engaged in transporting raw products to the sea and returning manufactured goods. From Barranquilla to La Dorada, 600 miles up the river, one has a choice of steamboats of several companies, which are of the stern-wheel type somewhat similar to boats used on the Mississippi and Ohio Rivers. The larger Magdalena boats were constructed in Pittsburgh and have modern cabins, electric fans, and other conveniences. They are wood burners and usually tie up at night, at which time the wood supply is loaded aboard. At La Dorada the traveler transfers to train and for 40 miles around rapids of the river uses the Dorada Extension Railway. At Beltran the railway terminates, and boats transport the traveler 100 miles farther up the river to Girardot. From this port there is a railway (3-foot gauge) to Bogota, 112 miles distant; but still another change must be made at Facatativa, where the Colombian National ends and the Sabanna Railway begins. The latter is only 26 miles long, and probably sooner or later its gauge will be altered, making the change of cars at Facatativa unnecessary.

The time from Barranquilla to Bogota is from 8 to 14 days; much depends upon the condition of river waters and the amount of freight handled at the numerous stops along the route. Travelers should endeavor to catch the mail boats, which are the most commodious and best. The cost of the journey is about \$80, or say \$150, for the round trip from Barranquilla. One should carry mosquito netting, powder to keep off gnats and other insects, and of course a supply of reading matter. Current magazines and newspapers from the United States are on sale in Panama and Colon, and steamers often bring them to Cartagena, etc.

From the river port of Girardot there is a gradual ascent to the plain or the Sabanna on which Bogota is located. This plain has an



HARBOR OF THE CITY OF BOLIVAR, VENEZUELA.

The city of Bolívar is situated on the Orinoco River, 250 miles from its mouth. It is the commercial center of the great Orinoco Basin, and exports large quantities of hides, coffee, tobacco, copal, balsam, rubber, cacao, and gold. The river at this point narrows to less than half a mile in width, and is deep enough to accommodate the largest ocean-going vessels.



GENERAL VIEW OF THE HARBOR OF PUERTO CABELLO.

The column in the foreground is the monument to the fallen hero of the Venezuelan revolution. From Valencia there is railway connection with Caracas, 147 miles, through a very picturesque region.

elevation of about 8,500 feet above sea level and therefore enjoys a very pleasant climate, although Bogota is only 4 degrees north of the equator. The temperature varies between 54° and 64° . Annual rainfall is 43 inches. The city is about $2\frac{1}{2}$ miles long and $1\frac{1}{2}$ miles wide, and spreads over sloping lands; it was founded in 1538 and today has a population of about 120,000. Many edifices are of the Spanish one-story style. There are four pretty parks, cathedrals, a national museum, a university, and various other public buildings. Automobiles are multiplying and as a consequence there is much attention given to building better highways. Fifteen miles distant from the city are the Falls of Tequendama, well worth seeing; the trip may be made by railroad. The salt mines at Zipaquirá are interesting, and may be visited en route to Nemocon, 30 miles from Bogota.

Retracing our course to the Magdalena we make the northward voyage with the flowing current in less than half the time required for ascending the river. The port of Berrio is the point from which the rail journey to Medellín, the second city of Colombia, is made. Medellín has 50,000 people, is about 8,800 feet above sea level, is located in a rich mining region and has several cotton factories. Within recent years the city has modernized and improved. The distance to the Magdalena at Berrio is approximately 100 miles, 88 of which have the service of the railway, which ere long will be constructed directly into the city.

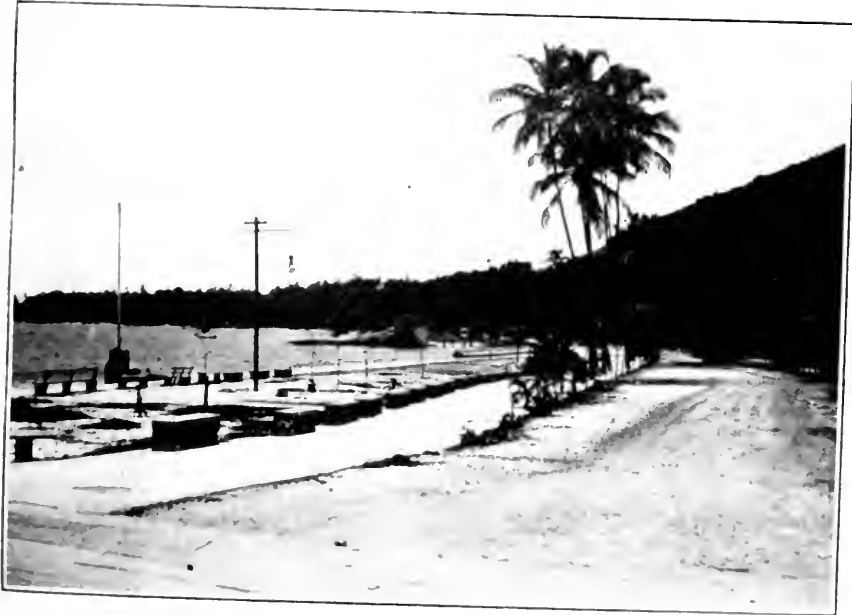
For the benefit of the increasing number of persons who are becoming interested in the grazing and agricultural possibilities of regions of Colombia lying contiguous to the rivers Atrato, Sinu, Cauca, etc., it may be said that approximately sailings every two weeks from Cartagena are provided by the several companies operating small steamers on those rivers.

From Cartagena or Puerto Colombia, preferably the former, the traveler may pursue his journey to Venezuela by taking passage on a steamer of the lines already mentioned. In normal times the sailings may be figured at about every 10 days. If the boat selected calls at the ports of Santa Marta, Curaçao, and Puerto Cabello, the better of course are one's chances for observations of peoples and customs. At the former the traveler sees phases of banana development which has grown to large proportions within a few years. Santa Marta itself is an ancient town of 9,000 people. Bolívar, the great South American liberator, died here and the tourist may see the house where his last days were passed. A railway is operated 93 miles inland, mainly through a region of banana and coffee cultivation. If one is traveling on a fruit steamer there may be an opportunity, while the vessel is loading cargo, to take a trip over the railway.



AN AVIATION CROWD NEAR CARACAS.

In Venezuela, as elsewhere, the progress of aviation has attracted general attention, and thousands of people visit the grounds to witness the flights.



A SECTION OF THE BEACH NEAR MACUTO, VENEZUELA.

In the center of the picture on the water may be seen one of the bathing pavilions, which is very popular with the people of La Guaira, Caracas, and near-by towns.

The Dutch island of Curaçao, 50 miles off the mainland of Venezuela, has at times belonged to various nations; it is often a port of call for large steamers. Spanish-American history is closely interwoven with this island. Willemstad is the port and capital, and the governor of the Dutch West Indies resides there. A peculiarity noted by the stranger is the inclination or bending of trees and vegetation toward the west, a condition attributed to the constant trade winds from the east. As in many other parts of the Tropics, the nights are delightfully cool, while the heat of midday is tempered by breezes.

Curaçao is a port of call for a Venezuelan line of steamers plying to Maracaibo. There are also ships of the Red D Line, which sail twice a month from New York, touching at Mayaguez, La Guaira, Curaçao, and Maracaibo. The Venezuelan company known as Cia. Costanera y Fluvial maintains regular services between Maracaibo and Ciudad Bolivar, the latter being located 250 miles up the Orinoco. These steamers serve intermediate ports en route, and are especially convenient for commercial salesmen covering the smaller cities along the coast.

Maracaibo has 50,000 population, is located on a fine harbor on the northwestern part of Lake Maracaibo, and has an extensive commerce with interior regions, whose products reach the various ports of the lake by several short railroads, river boats, etc.

From Puerto Cabello (port of the hair) the traveler may leave the ship and proceed inland by rail to Valencia, 34 miles; thence to Caracas, 137 miles from Valencia. Time, 10 hours; cost, \$9 for the entire trip. Puerto Cabello, the railway terminus and port, has 20,000 population, is the second in importance, and has the most modern customhouse of the country. The placid natural harbor suggested the name, as so little resistance is offered that ships are proverbially anchored by hairs. Several hours' carriage drive costs about \$4 for four persons.

Valencia has 65,000 people and is an important commercial center surrounded by agricultural and cattle lands. The large lake of the same name is near, as is also the famous battle ground of Carabobo. Carriages are available.

Eastward, 65 miles from Puerto Cabello, lies La Guaira. This port is 1,800 miles from New York, 460 miles south of Porto Rico, and is one of the world's picturesque harbors, with a beautiful background of mountains. Macuto, a bathing resort several miles eastward, is connected by electric line. There is a good hotel and many aristocratic Venezuelans and foreigners frequent the resort. If the tourist is fond of climbing he may follow the course taken from this point in 1580, when the buccaneers scaled the mountains and descended on Caracas.

La Guaira has about 14,000 population. The stranger who lands at this port will be amply rewarded by making the railroad trip to



A RAILWAY BRIDGE BETWEEN CARACAS AND VALENCIA.

The new railway line between Caracas and Valencia, Venezuela, is a masterpiece of engineering. In the route, there are 212 bridges and 86 short tunnels, facts which reflect the difficulties overcome by the constructors of the road.

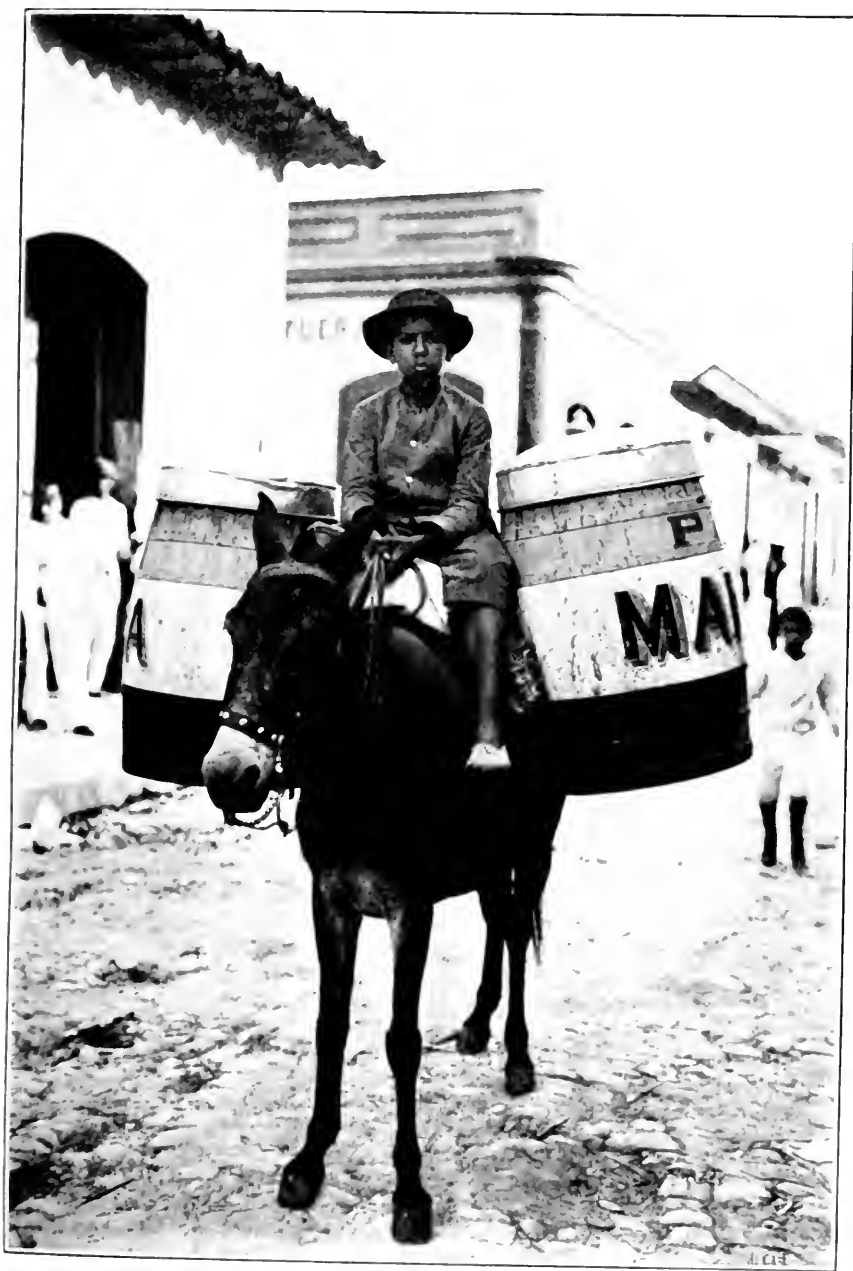
Caracas, 23 miles; the air line is only 8 miles, a fact at once conveying the idea of the winding route. At every turn there are charming sylvan views as well as others of the ocean and the port of La Guaira. Time, two and one-half hours; cost, \$2.50.

Caracas is an interesting city and dates back to its founding by the Spaniards in 1567. Earthquakes and sieges have left their marks, but each time it has arisen in more modern form. To-day the population is 87,000. There are many fine residences and costly public buildings, theaters, cathedrals, and parks. Streets are at right angles, well paved, and lighted by electricity, and the tourist will be charmed with the hospitality of the people as well as with the picturesque surroundings. The altitude of 3,000 feet above sea level is responsible for the delightful climate of perpetual spring. The mean temperature is 66.5 F°. The stranger should visit the university, the Panteon, the Capitolio, Calvario (the hill 400 feet high from which a magnificent view is obtained), the Vargas Hospital grounds, the residential suburb on the River Guaire. Short excursions to the grottoes of El Encanto and Encantado are well worth taking. Automobiles are increasing in number, and highway development, not only in the vicinity of the capital but in many sections of the Republic, is gradually making many interesting regions accessible to the business man and tourist. Caracas has five or more hotels, with rates ranging from \$2.50 to \$4 per day. Owing to the large number of tourists visiting Caracas during recent years additional hostelries have been planned and ere long will doubtless be available for the discriminating tourist.

If desired, one may sail directly from La Guaira for New York by the steamers of the Red D Line, which call at Porto Rican ports on both outward and homeward voyages. The rates of passage range from \$85 upward, and there are approximately weekly sailings. Time, eight days.

Steaming out of the harbor of La Guaira on one of the larger eastbound vessels, we pass along the Venezuelan coast for several hundred miles, occasionally catching a glimpse of the foliage-bedecked shore, but without a stop until Port of Spain, Trinidad, is reached. The coastal vessels of the companies already named stop at smaller ports en route to the Orinoco, such as Guanta, Cumuna, and with possible calls at the island of Margarita, where the interesting pearl fisheries are a source of large revenue to the people.

The island of Trinidad lies only 16 miles off the coast of Venezuela and almost opposite the delta of the Orinoco. It is a British possession and is about 10 miles long and, together with Tabago, near by, forms a joint colony. Port of Spain is the chief shipping center and has a population of 60,000; in recent years there have been many immigrants from India and other oriental lands. There is a



A BREAD SELLER IN AN INTERIOR TOWN OF VENEZUELA.

To the tourist unfamiliar with Spain or Latin America this little bread vender will prove an unusual and picturesque attraction. Note his well-kept mule, his intelligent face, and how carefully the bread barrels are covered to keep out flies and dust.

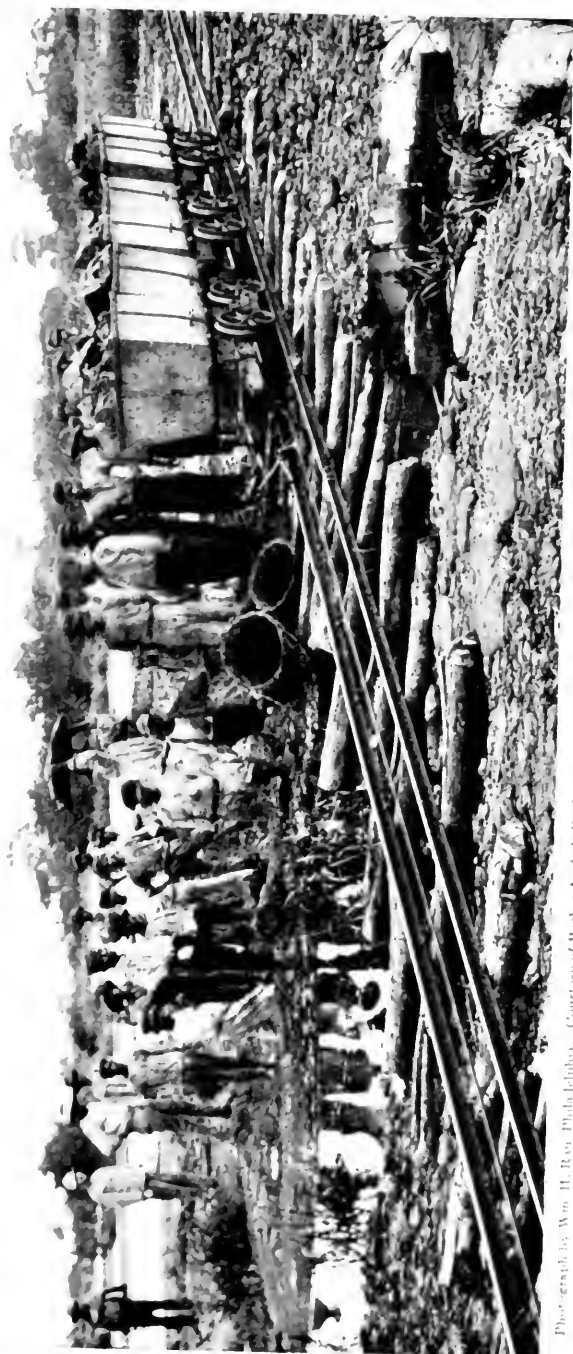
large English hotel, and from November to March many tourists from Europe and the United States make the place animated.

Most persons who visit Trinidad are anxious to see the famous Pitch Lake, from which quantities of asphalt are annually shipped to other countries. Twice a week there is a train leaving Port of Spain for this lake, which covers about 100 acres of land. The trip consumes the entire day, starting at 7 in the morning and returning at 6 p. m., traveling by rail and connecting with a small Government steamer at San Fernando. Food is obtained aboard the steamer. The round-trip ticket costs about \$3.65.

From Port of Spain, which is visited annually by ships of many nations, the traveler usually has no difficulty in securing passage either north or south or to Europe. A number of the steamers plying between New York and the ports of eastern South America make this port.

About 200 miles northeast of Trinidad lies the island of Barbados, another English possession and one also offering the tourist, in addition to interesting sightseeing, pleasant hotel accommodations. Excellent highways lead from Bridgetown, the capital, to all parts of the island, but owing to their extreme whiteness and the glare of the tropical sun, tourists are cautioned to use smoked glasses when traveling over the island. Automobiles are available in limited numbers, while carriages are plentiful, the double team costing about \$2 per hour. The old-fashioned windmills to be seen in every direction are some of the picturesque features in connection with sugar production. The following places will be of interest to strangers: Crane Hotel, 12 miles from Bridgetown; St. John's Church, 13 miles distant, commands a fine view of the western coast; Codrington University, the oldest college of the West Indies, is 14 miles away; Boiling Spring, another sight visited by tourists, is 16 miles from the capital. All of these places and others may be visited by automobile. During our winter months there is usually a large quota of tourists from the United States to be found at Barbados, the climate being especially inviting and salubrious. Curios of many varieties are offered the visitor at Bridgetown and elsewhere.

A number of the northbound vessels after calling at Bridgetown pass eastward of the group known as Leeward Islands. Frequently the ship is near enough for a good bird's-eye view of the towns and settlements. The first island passed is St. Lucia; an hour or two later the ship passes Martinique in full view of the remains of St. Pierre, the town destroyed by the volcano Mount Pelee a few years ago; the next island is Dominica, with its quaint little capital, Roseau; Guadeloupe, St. Kitts, and other islands are passed in turn. In order to stop over at the various islands the traveler avails himself of the service maintained by the Royal Mail Steam Packet Co., which has regular sailings of steamers from Bridgetown. The Guianas



Photograph by Wm. H. Roy, Philadelphia. Courtesy of Barber Asphalt Paving Co.

LOADING ASPHALT INTO CARS, TRINIDAD.

The company's tract of 114 acres in extent and supposed to be about 100 feet deep or more, although the bottom of the craterlike depression has never been reached, is a goodly one. The patch of oil can be picked up and mobbed without soiling the hands, or dug up by pick, but the deposit renews itself almost as soon as

may also be reached by the same service. As to steamship fares covering so many ports and short runs, it may be said that the rate of \$5 per day, including meals and stateroom berth, is a fair estimate of travel expenses on the smaller vessels of the intercolonial service above mentioned.

We have now made the entire circuit of the South American Continent, a distance of 16,500 miles; if we include the side trips into Paraguay, Bolivia, and Colombia, together with the many miles covered by automobiles and carriages, and even the mule team, the approximate distance of our tour has been more than 20,000 miles. We have looked upon some of the wildest scenes that nature presents in any region of the world; we have enjoyed the latest operas in theaters not equaled in beauty or lavish appointments in any North American city; all in all, our journey has been varied in the extreme and over a course which in future years will doubtless draw a constantly increasing number of tourists.

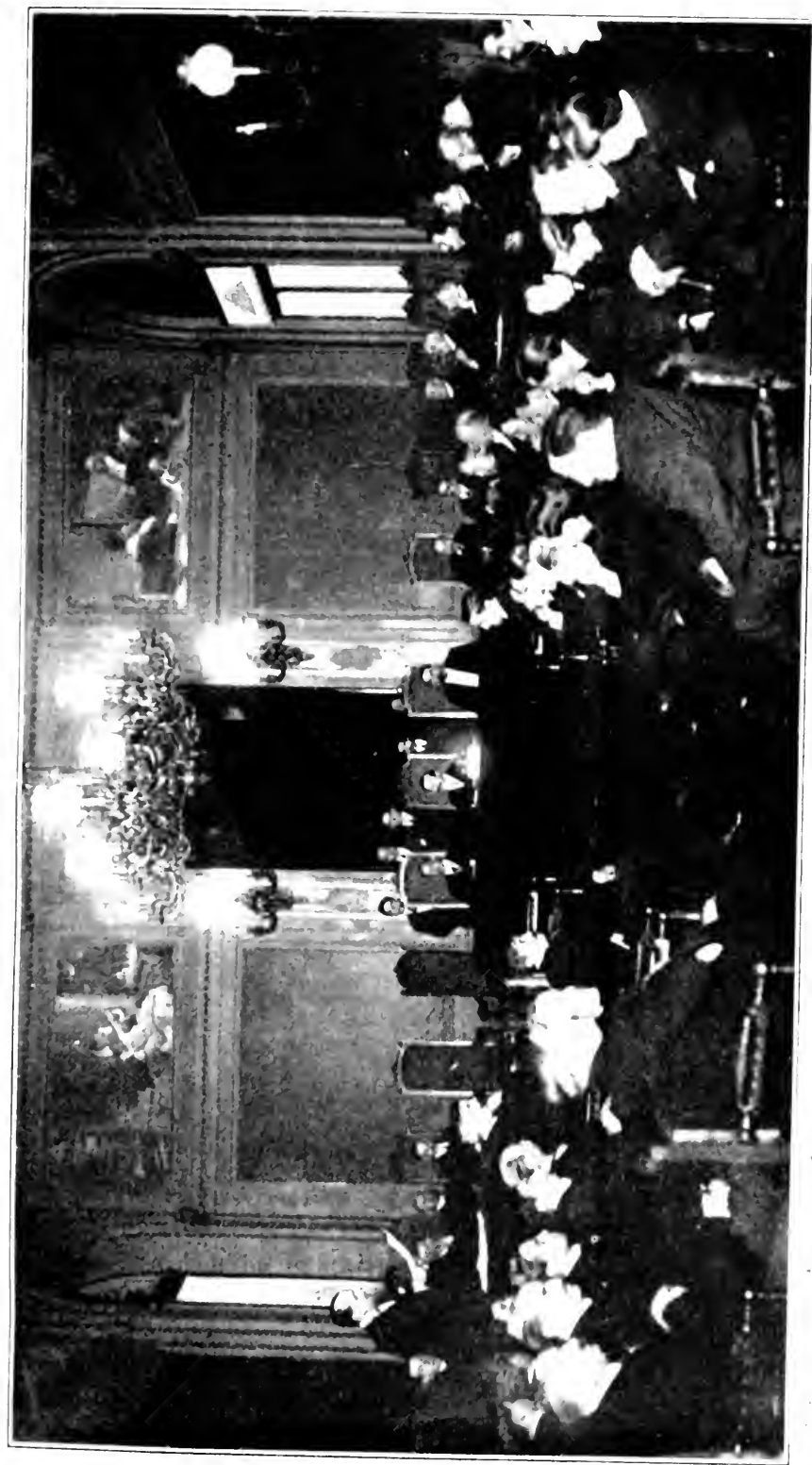
IMPORTANT LATIN AMERICAN CONGRESSES

AS the present year draws to a close it is interesting to note the great constructive movements that have taken place in Latin America—a striking contrast to the terrible destructive activities of other parts of the world.

Several congresses and conferences of Latin American nations have met and considered future progress and human welfare from various points of view. They have held their first child's congress; their first medical congress; their first aviation congress; their first engineering congress; and other important, if not first, conferences. Several of these gatherings have been international in character, so far as the nations of the western hemisphere are concerned, for delegates from most of the countries have participated in the deliberations.

One of the most vital matters confronting any nation is the preservation of its youth; and to this end the First American Congress on Child Welfare assembled in Buenos Aires. This movement had its inception among Argentina's social workers, and the generous responses to the invitations by other countries who sent delegates were highly gratifying to the promoters of the meeting. The sessions of the congress continued through 10 days in July last, and at the period of the Republic's one-hundredth anniversary celebration.

The congress was officially opened in Colon Theater, Buenos Aires, Dr. Julieta Lanteri Renshaw, presiding. The principal officials of



RECEPTION AT CONGRESS OF ARGENTINA, SEPTEMBER 17 TO 24, INCLUSIVE.

General view of one of the 60 tables of the Congress.

the Argentine Government, the diplomatic corps of the South and Central American Republics, the educational societies of Buenos Aires, the families of the delegates and numerous other families and persons were invited to attend the opening session of the Congress. A choir of about 400 children opened the ceremonies by singing the national anthem. Addresses were then made by Dr. Oliver, Secretary of the Treasury of the Argentine Government, in representation of the President of the Republic; the chairman of the congress, Dr. Julieta Lanteri Renshaw; Dr. José de Montellano, in representation of the Bolivian delegation; Dr. Alfredo Ferreira de Magalhães, representing the Brazilian delegation; Dr. Angel C. Sanhurza, representing the Chilean delegation; Miss Hardynia K. Noville, representing the temperance societies of the United States; Gustave A. Ruiz, representing the delegation of Salvador; Dr. Cosme Manzoni, representing the delegation of Paraguay; Dr. Paulina Luici, chairman of the delegation of Uruguay; Dr. César Sánchez Aizcorbe, representing Peru; the Consul General of Venezuela, representing that country; Matias Alonzo Criado, representing Ecuador; and Dr. Lemos Britto, who thanked the secretary of the treasury, in the name of the congress, for his timely remarks delivered at the inaugural meeting.

Among other things the congress recommended the following:

1. The First American Children's Congress asks of the public authorities of the American countries that penal legislation be studied and enacted in such a manner that children shall not be considered criminals. That proper attention be given to asylums for children and similar establishments. That the American Children's Congress would be much gratified if the Argentine Government would study the situation of the "Winter City" (Ciudad de Invierno) in the Province of Corrientes, which, on account of the great size of its building, its geographic situation, and the area of its land (2,500 hectares), is an establishment suitable for use as an agronomic station for the apprenticing and correction of minors.

2. That immigration laws be passed forbidding entrance to American countries of persons notoriously pernicious from a physical or moral standpoint, without regard to any political, religious, or doctrinarian creeds.

3. Whereas in the public schools there are a large number of sickly children who attend by express order of the law, the First American Children's Congress declares: That it is the duty of the American States, where such is the practice, to solve the problem of sickly pupils, and to encourage at the same time the formation of cooperating organizations for the protection of such children, such, for instance, as vacation colonies, food societies, medical and dental examinations, etc.; that prevention being the scientific predominating concept, instruction of sickly children should be given under natural surroundings in which the factors of food, climate, physical exercise, instruction, etc., should be the bases of physical reestablishment in the only possible epoch of infantile life (6 to 15 years), and to which end it advises the use of the new hygienic-pedagogic, scholastic, preventive organization of the schools, namely, the employment of sea, mountain, or plain in the treatment of sickly children; that the lives of children be protected from diseases due to ignorance and vice, and that the new hygienic-pedagogic method be adopted in the American countries as early as possible as a safeguard for the future health of the race and for the betterment of the social condition of its members.

The congress approved a resolution that school furniture employed in schools—desks, for instance—should be adjusted to the height of the pupils, and that measurements for this purpose should be taken twice a year.



OPENING SESSION OF THE CHILEAN MINING CONGRESS

Upper: The board of directors seated at the table. From left: Minister of the Interior, Don Arturo Alessandri, Ex-President of Chile, Don Ramon Barros, Ex-President of the Republic, Don Juan Sanbrientes, president of the Congress, Don Carlos Belandier, minister of agriculture, Don Ramon Subercaseaux. Lower: The general secretary, Don Osvaldo Martinez C., addressing the Congress.

A resolution was adopted recommending maternal instead of artificial nursing in foundling asylums, and prohibiting women with suckling infants from working on the streets, and recommending that the State give subventions to working mothers during the period of lactation.

A resolution was passed favoring a six-hour day for minors, and prohibiting the employment of children under 14 years of age.

A recommendation was made that working women employed in industrial occupations be granted a leave of absence of three days each month with pay without being required to state the cause thereof.

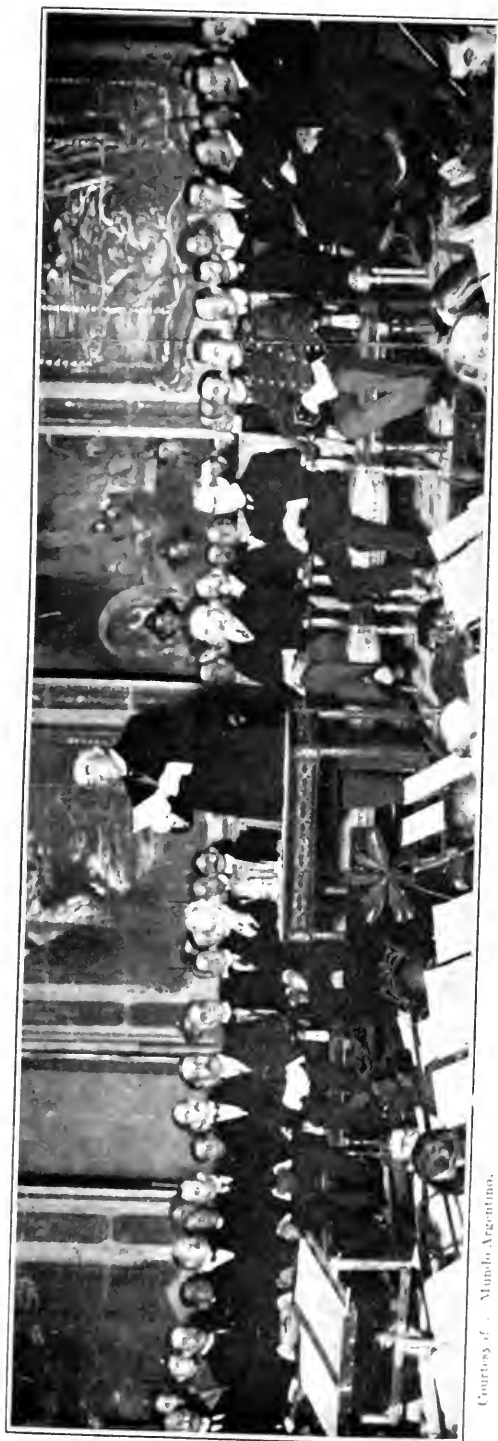
The closing meeting of the congress was held in the Odeon Theater, Buenos Aires, in which addresses were made by a number of the delegates in representation of the different countries, societies, and organizations.

Commenting on the far-reaching results of the Buenos Aires Congress, *The Survey* (New York), under date of August 26 last, makes some interesting observations, from which we quote:

"The isolation of the social workers of the United States in respect of the development of distinctly American ideals in social welfare (using the term "America" in its broader sense as it is commonly understood in South America) was borne in upon the observer from our country thus thrown into contact with the other peoples of the American continents who are so little known to us and yet are facing in their own lands practically the same situations that affect the well-being of the United States, and seeking solutions for problems virtually identical to our own. The need of friendly discussion and intercourse to advance the social interests of the sister nations of the two continents has fortunately been recognized and acted upon, and it is now our plain duty to do our part in this joint endeavor.

"There can be no true American ideals in social welfare without the contributions and cooperation of all the American peoples, and the holding of the First American Congress on Child Welfare at Buenos Aires last month was the first step toward the national interchange of ideas which, if properly encouraged and supported, will result ultimately in the formulation of America's international ideals of childhood and its rights. It is above all for this reason that the social workers of Argentina deserve the gratitude of the three Americas for their conception of the Western Hemisphere as a unit for child welfare and for their courage and persistence in founding the congress and fashioning it into a suitable instrument to gain the end desired. For the most impressive thing about this first congress was the community of thought and purpose among all the American peoples wherever and however the interests of children are concerned."

On July 6, 1916, the inaugural session of the American Congress of Bibliography and History was held in Buenos Aires. Francisco J. Oliver, secretary of the treasury of Argentina and honorary president of the Congress, presided.



Courtesy of - Munro, Argentina.

OPENING SESSION OF THE FIRST ENGINEERING CONGRESS, BUENOS AIRES, SEPTEMBER 23, 1916.

Five hundred delegates and members of the various branches of engineering from all over Argentina, in addition to the general public, attended the sessions of the Congress. One hundred and twenty-eight different topics were discussed, including greater petroleum development, irrigation, lumbering, highway engineering, railway construction, build-

The opening address of the honorary president of the congress was followed by that of Dr. David Peña, president of the congress, and by addresses of the following delegates: Dr. Eduardo Gutiérrez, chairman of the delegation of Brazil; Dr. Alberto del Solar, delegate from Chile; Dr. J. M. Escalier, delegate from Bolivia; Dr. Guillermo Ancizar, delegate from Colombia; Dr. Carlos J. Salas, delegate from Ecuador; Gustavo Ruíz, delegate from Salvador; Veriato Díaz Pérez, delegate from Paraguay; Aquiles B. Oribe, delegate from Uruguay; César Sánchez Aizcorbe, delegate from Peru; and Dr. Charles Chapman, delegate from the United States.

The object of the congress was an exchange of ideas on historic and bibliographic matters concerning the New World from the beginning of its discovery, and even earlier, until the present time.

One of the interesting features of the congress was the inauguration on July 7, 1916, in the National Athenæum in Buenos Aires, of a book exhibition representing the intellectual production of the Western Hemisphere, and in which 14 American nations participated, namely: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Paraguay, Peru, Uruguay, United States, and Venezuela.

The congress dedicated a day in honor of Dr. Ruy Barbosa, the distinguished Brazilian scholar and writer, who addressed the gathering on important international questions.

The first National Students' Congress of the Argentine Republic was organized in Buenos Aires on July 11, 1916. The inaugural session of the congress was held on July 12. The following officers were elected: Francisco A. Turano, president; Carlos G. Lopez and Florencio F. Cabral, first and second vice presidents, respectively; Miguel de Madrid, secretary general; Asdrubal Figuerero, José Frascino, Amílcar Vigilani, and Edelmiro C. Solari, secretaries; and Florencio Garrigos, treasurer. No foreign delegates were in attendance.

The congress, among other things, recommended the founding of night colleges in the principal cities of the Republic; the establishment of a board of secondary education with powers similar to those now exercised by the National Board of Primary Instruction; the encouragement of coeducation; the introduction into national colleges and normal schools of theoretical and practical instruction useful in determining the vocational aptitudes of students; the establishment of tribunals or boards for the purpose of eliminating incompetent teachers; the encouragement of university extension work; and the use of circulating libraries in rural communities.

The American Congress of Social Sciences was held in Tucuman from July 5 to July 10, 1916.

The president of the congress, Dr. Carlos Saavedra Lamas, minister of justice and public instruction, welcomed the delegates at the

inaugural session, held in the reception hall of the National College on July 5, 1916, and a circular telegram was sent to all the American Governments, expressing the wishes of the congress for closer union and solidarity among all the nations of the American Continent.

The congress was divided into ten different sections for special discussions, in addition to three general conferences.

The delegates representing the visiting countries included: Chile, Srs. Alejandro Fuenzalida Grandón and Horacio Amaral; Ecuador, Sr. Emilio Alonso Criado; Guatemala, Sr. Esquivel de la Guardia; Paraguay, Dr. César Gondra; Peru, Sr. D. Carlos Velarde; United States, Mr. Peter H. Goldsmith, of the Carnegie Endowment; Uruguay, Dr. Daniel Muñoz, and a delegation from the municipality of Montevideo.

Important addresses were delivered by each of the delegates, which served the purpose of creating a better understanding among the countries participating in the congress in regard to their people, history, laws, and education, their resources, industries, and commerce.

Dr. Ernesto E. Padilla, vice president of the congress and governor of the Province of Tucuman, presided at the closing session July 10 and delivered the final address, summarizing the work and outlining the recommendations of the congress and appointing a committee to collect and publish the acts and resolutions of the congress and its different sections.

The inaugural session of the Eucharistic Congress took place in Buenos Aires on Wednesday, July 19, 1916, in the College of Salvador, Archbishop Espinosa presiding. Full sessions of the congress, presided over by a bishop, were held at the same place on the evenings of the 20th, 21st, and 22d of July.

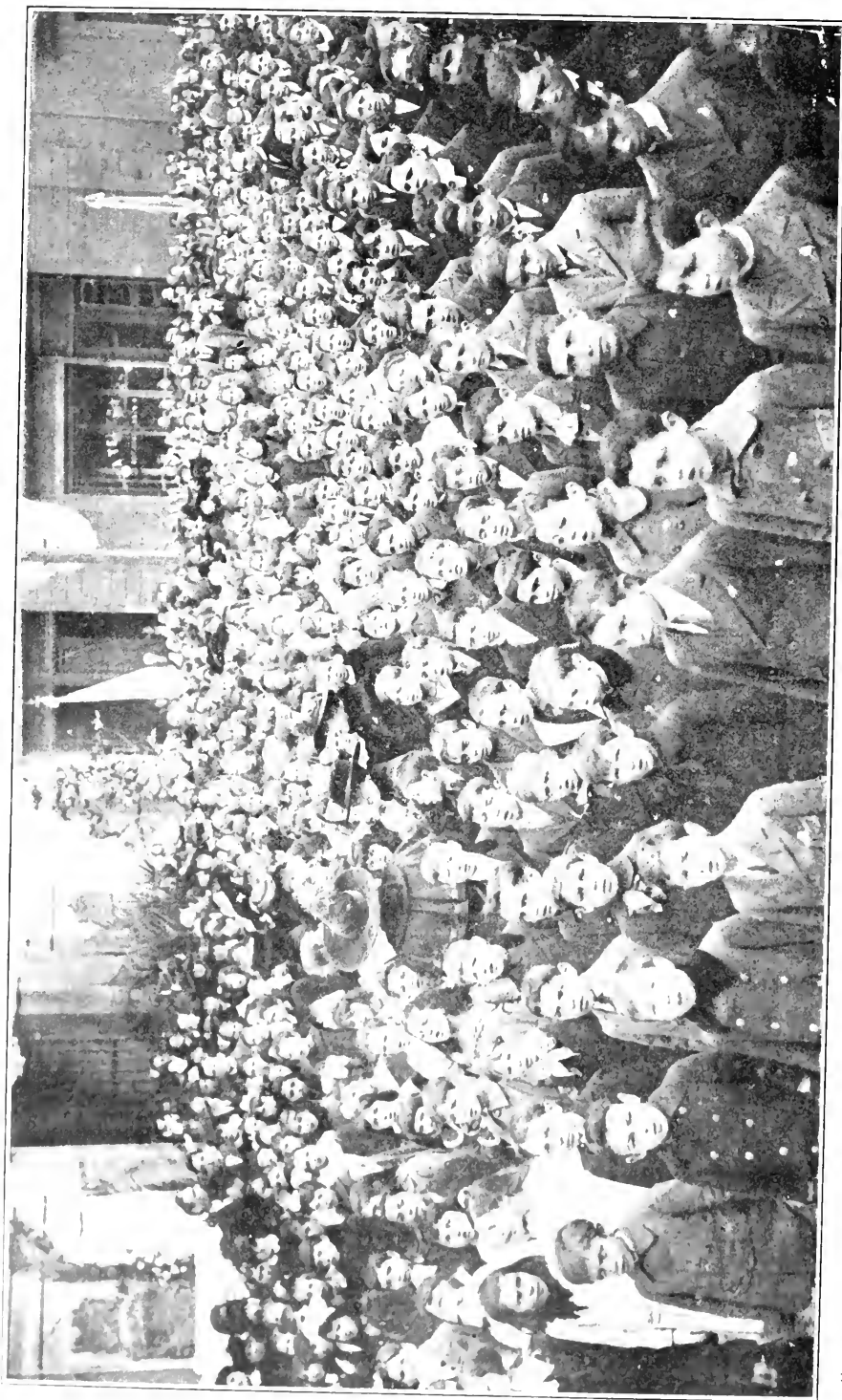
It was the intention of the organizers of the congress to make it a strictly Argentine gathering, but at the earnest solicitation of the League of Catholic Women of Uruguay that organization was permitted to take part in the celebration.

One of the principal events of the congress was the parade which took place on July 23, and in which the Catholic colleges, asylums, associations, members of the church, and a number of Government organizations participated.

An impressive ceremony connected with the congress was the blessing of the new cross of the Christ of the Andes in the cathedral in Buenos Aires.

The congress passed a resolution requesting the Pope, at the solicitation of the Argentine Church and in the name of the Eucharistic Congress, to designate a day in which to offer peace prayers.

The Supreme Council of Ancient and Accepted Scottish Rite Masons of the Argentine Republic (which forms part of the World



Courtesy of Mundo Argentino, Buenos Aires.

GROUP OF ARGENTINE SCHOOL CHILDREN.

Children from the schools of Juan José Paso, Félix de Olazábal, and Hipólito Vieytes in Buenos Aires singing the national hymn of Argentina during a patriotic ceremony held in the church of Santo Domingo. In the primary schools the boys and girls freely intermingle, but as the children grow older separate schools are provided for the two sexes. Recently a law has been passed which gives some of the south American countries even the universities are opening certain departments to women, many of whom are

Confederation), called a congress of Masons in July, 1916, for the purpose of participating in the Tucuman Centenary Celebration of Argentine Independence. The following countries were represented: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

Sessions of the congress were held in Buenos Aires and were open to delegates and members of the order. On July 6 the delegates and invited guests journeyed to Tucuman to deliver to the governor of that State a bronze tablet, in the name of the Masonic order, and in commemoration of the Tucuman Centenary Celebration. On returning to Buenos Aires meetings of the congress were held under the presidency of Dr. Juan A. Golfarini at various times until July 15, the closing session of the congress.

Closely following these congresses was the assembling in Buenos Aires of the First National Medical Congress of Argentina, on September 17, with Dr. Saavedra Lamas, minister of public instruction of Argentina, presiding. Dr. Gregorio Araoz Alfaro, of Buenos Aires, was unanimously elected president of the congress. The secretaries, also elected unanimously, were Drs. Carlos B. Udaondo, Juan C. Navarro, and Bernardo Houssay.

In his opening address, among other things, President Gregorio Araoz Alfaro said, in substance, that it was necessary to fix the scope and bounds of the congress: that up to that time only scientific and international medical congresses had been held in the country, but that the present congress is genuinely Argentine; that its object is to investigate local conditions of sanitation and hygiene, and the study of the pathology and climatology of the Republic, with the object of placing the profession in Argentina on a level with the most advanced countries in the world in medical science. The president expressed the hope that this congress would emphasize more and more the social mission of the physician, not only to cure but to prevent disease, and to strengthen and prepare the race for future generations of people more vigorous, healthy, and happy than the present inhabitants of the land.

The business meetings of the congress were held in the lecture hall of the medical college. About 500 papers were presented for consideration. The work of the congress was divided into sections, the principal of which were: Medical clinics and therapeutics, biology and pathology, obstetrics and gynecology, pharmacy and chemistry, general surgery, theory and practice of medicine, military sanitation, ophthalmology, odontology, pediatrics, dermatology, microbiology, and laryngoscopy.

The congress, which closed on the 21th of September, 1916, sanctioned the following recommendations:

The First National Congress of Medicine, realizing the great importance which the preservation of infancy has in every campaign against tuberculosis, recommends to the public authorities the following:

The founding of hospitals for the housing of children suffering with tuberculosis, the establishment at the seashore, on the plains, or in the mountains of sanitariums for treating children, who, without having outward signs of consumption, are of a delicate constitution, poorly fed, and in danger of contracting the disease, and the adoption of prophylactic measures to protect the newly born and suckling babes of consumptive mothers.

The congress recommended a thorough and critical revision of Argentine medical studies for the purpose of securing a preponderance of important and general studies, including in the curriculum the study of the history of medicine and its principles, comparative science and the genetics of evolution, general physiology and biology, and methods tending to increase the fund of medical knowledge. The board of directors of the Faculty of Medical Science of Buenos Aires is requested to take into consideration the plan submitted by the faculty of the College of Dentistry concerning changing the present plan and decide same as early as possible.

The executive committee of the congress was instructed to compile an index of medical biography.

A committee was appointed to choose the place of meeting of the Second National Medical Congress. This committee selected Cordoba, Argentina, the date to be determined later. The following board of directors, consisting of physicians from the city of Cordoba, was appointed to arrange for the preliminary work and the holding of this congress: Drs. Garzón Maceda, Gómez Martínez, Ducceschi, Allende, Pitt, and others.

The foreign delegates were from Brazil, Paraguay, Uruguay, Chile, Peru, and Bolivia. The delegation from Brazil was composed of the following members: Drs. Aloyso de Castro, dean of the Medical College of Rio de Janeiro; Bruno Lobo, director of the Museum of Natural History and professor of microbiology; Samuel Libanio, professor in the Bello Horizonte Medical College, Minas Geraes; Carlos Chagas, member of the Academy of Medicine; D'Utra Silva y Da Fonseca, representing the Oswaldo Cruz Institute; and Dr. Thompson Netto. Paraguay was represented by Luis E. Migone, Tomas Bello, and Luis Zanotti Cavozzoni; Uruguay by Drs. Scossería, Navarro, Ricaldoni, Morquio, and others; Chile by Drs. Amunátegui, Maira, and Sanheusa; Peru by Dr. Esconielan S. Aiscorbe; and Bolivia by Dr. Villazon.

These two congresses dealt with the question of the human race—the preservation of life and the improvement of conditions.

Immediately following their sessions the First Engineers' Congress convened in Buenos Aires on September 23, with about 500 delegates

present from various parts of Argentina. These gentlemen from the broad field of constructive science listened to the reading of 128 important papers and the discussion of such problems as irrigation, drainage, petroleum development, mining, construction, etc.

Engineer Eduardo Huergo and Alberto Vinardell were elected, respectively, president and secretary of the congress. At the opening session Dr. Manuel Moyano, minister of public works, delivered the opening address. Addresses were also made at that session by Dr. Eufanio Uballes, rector of the University of Buenos Aires; Engineer Juan F. Sarhy of the faculty of physics and exact and natural sciences of the University of Buenos Aires; Col. Belisario Villegas, of the faculty of science of the University of Cordoba, and by Engineer Eduardo Huergo, president of the congress.

Upon completion of its deliberations the congress made plans for a permanent organization to be known as "The First National Congress of Engineering—Centenary of Argentine Independence."

Another step of progress which received serious attention in Latin American countries was the First Pan American Aeronautical Congress, which held its sessions in Santiago, Chile, a few months ago. This international gathering was held under the auspices of the Aero Club of Chile and had delegates from nine countries of Latin America, including the famous Brazilian airman, Santos Dumont, who not only represented his own country, but also the Aero Club of North America.

Aviation in all of its civil and military aspects, of course, was the uppermost thought in the minds of the delegates, who not only proved themselves at home upon the rostrum, but whose daring feats in the air at both Santiago and Valparaiso astonished the vast crowds of people who were drawn to the aviation grounds.

The Chilean Congress on Mining and Metallurgy convened in Santiago in April last, with the object of forming a permanent "round table" for the discussion of matters relating to the progress of Chilean mining. The invitations to the conference stated that "the leaders of the proposed congress thought it a suitable time for inviting all mining men of the Republic to exchange ideas and to formulate a program for a bigger and better policy."

The sessions, which were attended by hundreds of members of the mining profession and others, continued over a period of two weeks. Don Carlos Besa was president of the congress. The records of the proceedings are being compiled and will ere long be published in detail. A Chilean journal, *Teniente Topics*, of Sewell, commenting on the meeting and its objects, says, among other things:

The society recommends to the attention of the Government a plan of mining policy which will give to its principal source of production the impulse which it so much needs, considering as urgent measures the creation of a bureau of mines and a

geological survey; the construction of railways to the coast; the improvement of port works; the reform of railway tariffs and the organization of a railway police in order to have a better fiscalization by the Government of the private railways, thus putting an end to the actual anarchy in ruling tariffs, a principal cause of the prostration in which many mining zones at present are; and the organization of proper mining education, together with reform of the actual legislation.

* * * * *

The study of all measures relative to the advancement and development of the national mineral industry, paying special attention to the knowledge of the location of low grade metalliferous deposits and all that relates to their exploitation.

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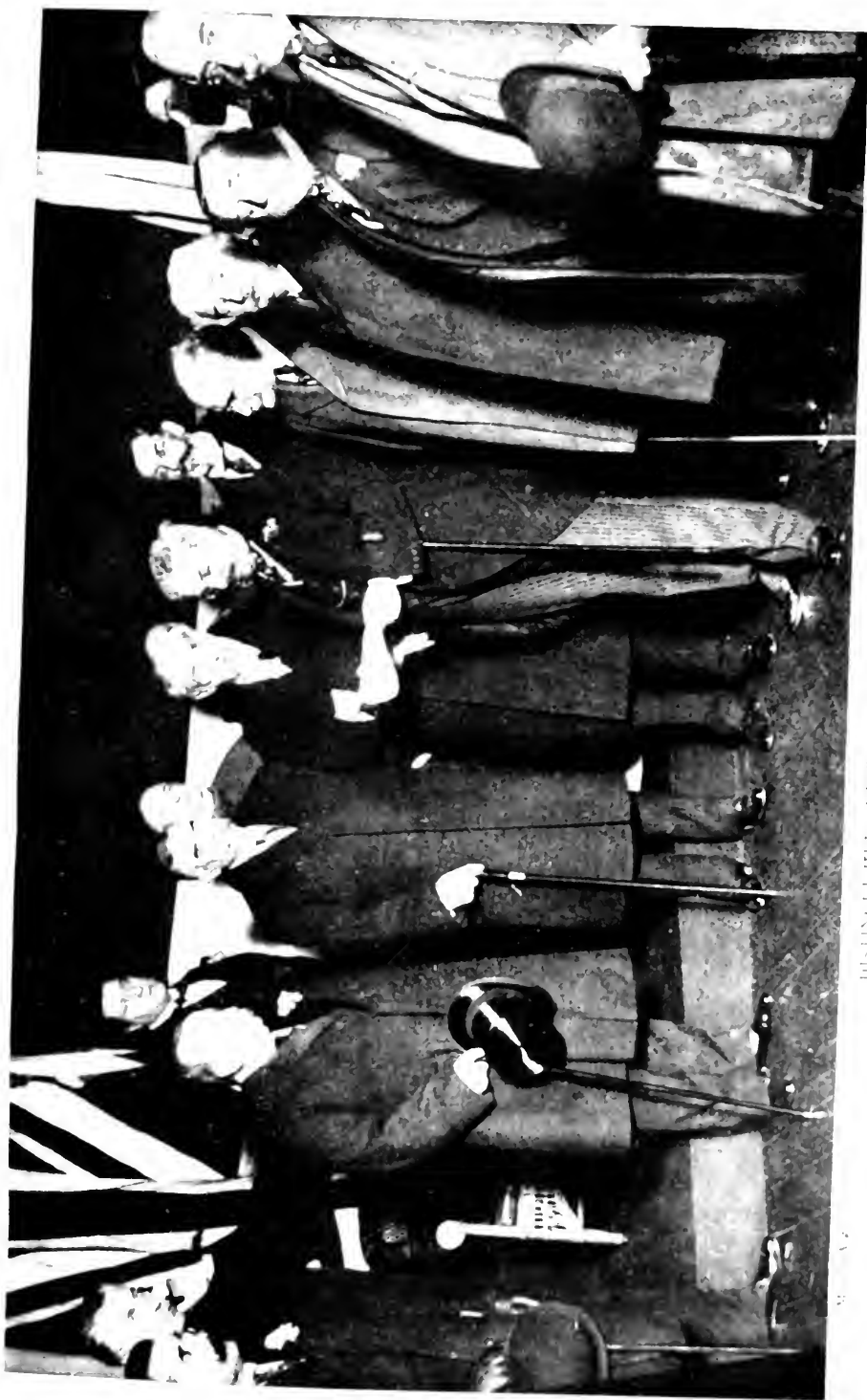
An analysis of the actual conditions under which the mining industry is at present developing in the different parts of the country and to discuss the best ways of procuring for the national element an effective participation in foreign enterprises, by requesting them, for example, to admit a certain number of Chilean employees of proper attainments to their staffs.

This brief summary of the work of these Latin American Congresses does not, of course, touch upon the many important details. The official proceedings of each congress must be consulted by those who are watching the growth and advancement of all the American nations. The year closes with many new signposts along the highway of progress, placed there by those who labored in varying fields of activity in the congresses, and in future years, as at present, they stand as an honor to all concerned.

BUENOS AIRES AND TIGRE CONNECTED BY ELECTRIC LINE

TIGRE, one of the most popular pleasure resorts for the people of Buenos Aires, was recently linked with the capital city by the completion of the electrification of a suburban railway. Tigre lies on the Plata River about 27 miles above Buenos Aires, and for some years the increasing flow of people between the city and the pleasure grounds, or rather boating waters, was by means of boats and the steam railroads. The continued increase in the popularity of Tigre, however, necessitated better passenger-traffic facilities than those prevailing, and notwithstanding the disturbed conditions of the world, the work of electrification of the route to Tigre has continued with little interruption. The road belongs to the Central Argentine system.

The electric alternating current is produced at 20,000 volts at a main power plant near the Tigre end of the road and transmitted to



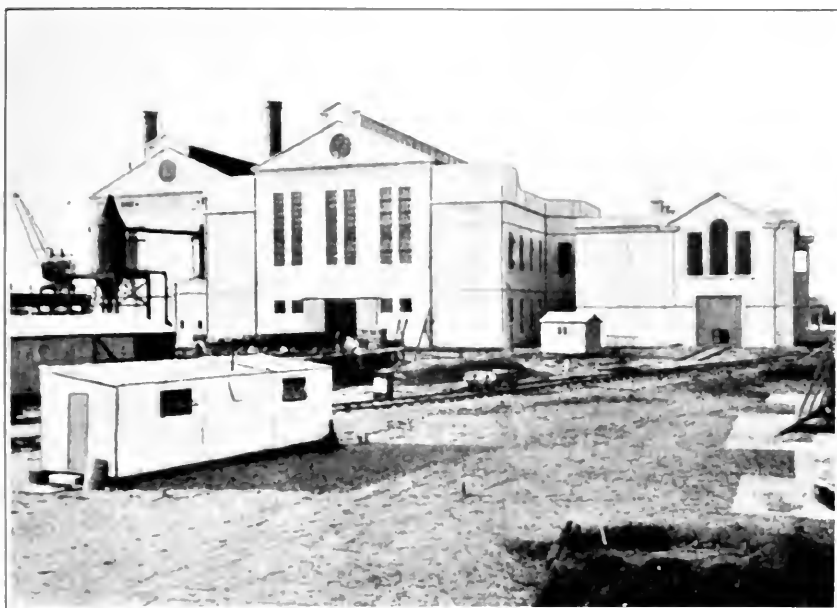
DR. V. V. VERFROM, PRESIDENT OF THE RAILWAY COMPANY.

The President of the Railway Company, Dr. Vladimir, and Mr. Verfrom, who attended the opening ceremony.



Courtesy of Mundo Argentino Buenos Aires.

THE ELECTRIC TRAIN AND SOME OF THE TRAINMEN AT TIGRE AWAITING THE RETURN OF THE PRESIDENT AND OTHER OFFICIALS.



PRINCIPAL POWER STATION.

This station is located at Canal San Fernando, near Tigre, from which the current is distributed to substations at various points on the route.



VICTORIA STATION.

This station is typical of others along the line. The dangerous third rail is guarded by a wire fence, preventing persons from crossing the track except at certain points.

substations by underground cables. A third rail conveys the current to the trains.

The coaches are of the multiple system, the unit consisting of one motor coach having two motors and a trailer coach. The standard train will have two units or four coaches, but may be increased to six units or 12 coaches. All of the coaches have central as well as end doors, and are thus equipped for the easy ingress and egress of crowds.

The new electric service will not only facilitate travel between Buenos Aires and Tigre but the various suburban villages through which the road passes will be equally benefited. Towns and villages are numerous along the route, and many business men of the city have their homes in these suburban sections. In the past the steam railways have operated from 30 to 50 trains a day between the capital and Tigre, from which fact we obtain an idea of the enormous amount of travel. With more modern facilities, the whole region along the electric line seems likely to be more popular than in the past.

Tigre is often referred to as "Little Venice." Its location at the confluence of the Tigre and the broad La Plata, together with the numerous islands of the vicinity, especially favor aquatic sports. These the Argentine has developed on a large scale, and the various contests in season never fail to draw enthusiastic crowds. There are beautiful gardens, vine-clad cottages, fine shade trees, and on the main shore the splendid hotels and amusement pavilions offer every facility for pleasure and entertainment.

Dr. José A. Frias, the distinguished Argentine, who was a member of the party which rode over the new road on the inaugural train, in an address on that occasion said:

The line which we have just traveled over, constructed with every method of security which science and experience dictate, realizes one of the desires of the Central Argentine Railway to the continually growing development of the picturesque suburbs of the north of Buenos Aires, which are justly the admiration of all and which more than half a century ago received the impulse of the steam locomotive.

The beautiful zone we have just admired called for the new service, for apart from the enchantments with which it has been endowed by nature, making it a place of pleasure and of rest, also contains an important nucleus of commerce, industry, and population which will now count on a modern system of transport, rapid, commodious, and safe. The electric traction adopted in consequence of the crying necessities of the towns and suburbs has been carried out with great difficulty and sacrifice, and in spite of the intense world crisis through which we are passing, for the interests of the Nation are intimately bound up with those of the company or are so connected that they must be governed or carried on within the legal regimen, justly and wisely established, by the way of public aggrandisement.



VENEZUELA'S NEW HIGHWAY :: :: ::

A NEW highway more than 700 miles long is the ambitious project now being launched in Venezuela. It is the greatest public work the country has ever planned and is therefore of more than ordinary interest to the commercial world. Compared with present means of communication the proposed highway to link two far-distant cities of the country—Caracas and San Cristobal—might be properly termed a speedway. To-day over a great part of the route freight and passenger traffic is transported by primitive methods, which means the mule and ox as motive power. That these facilities are far too slow for present-day activities has been known for years, and the proposed road is the culmination of a long-cherished desire of the Government and the people for better highway facilities.

Venezuela has something like 600 varieties of hard and soft woods in the forests through which the new road will penetrate; there are thousands of acres of fine grazing lands along the way, over which roam many cattle. A hundred and one other products that the world is demanding in increasing quantities are within contiguous territory of the new highway. In other words, a vast area that has been tapped only by primitive roads and rivers will be placed on or near a modern highway.

Railway building is usually far slower than highway construction and much more expensive. When we consider that one of Venezuela's most important railroads—that from La Guaira to Caracas—cost more or less \$200,000 per mile, but which has earned substantial dividends, we have at least an inkling of a traffic that may be developed as additional means are provided for reaching farther into the country's natural granary, almost wholly unexploited.

The proposed road is to be known as the Great Western Highway. From Caracas, the starting point, the route follows the region traversed by the railroad connecting Caracas and Valencia, a distance of 137 miles. From Valencia, which is a city of 65,000 population and an active commercial center, the road will take a southerly course, tapping small villages en route, to San Carlos. Continuing southwesterly the route leads by Guanare, Barinas, possibly to Merida, and finally to the objective city, San Cristobal, on the Torbes River. The states traversed in this course are, respectively, Miranda, Aragua, Carabobo, Cojedes, Portuguesa, Zamora, and Tachira. The air-line distance from Caracas to San Cristobal is only 125 miles:

thus the distance to be covered by the road will be practically double that of the direct line, a fact that at once indicates the winding course of the highway.

San Cristobal is one of the oldest interior cities of Venezuela, having been founded by Maldonado in 1561. It has over 20,000 inhabitants, and its commercial activity is based on the production of sugar, coffee, beans, tobacco, rice, and other staple products of the surrounding region. In the vicinity are iron, coal, and petroleum operations. All of these industries are likely to respond with new life to the modern facilities that come with road development.

THE DIRECTOR GENERAL IN ENGLAND AND FRANCE

ON OCTOBER 16 Mr. John Barrett, the Director General of the Pan American Union, returned to the United States from a six weeks' trip to England and France. The special object of his visit was to ascertain the British and French viewpoint of the present and future effect of the war on the commercial, financial, and economic development of the American Republics. Ever since the war began the work and correspondence of the Pan American Union, in that phase of its responsibility which makes it a great international bureau of information, has reflected the influence of the war. In many ways or in some degree the European struggle has affected the material conditions of each one of the Republics forming the constituency of the Union. Their close relationship in financial and trade matters to the belligerent nations has caused a readjustment of conditions in the field of Pan American commerce and finance. No one feels confident as to what may be the developments of the near future and also what will arise after the war.

As the Director General, moreover, had enjoyed no vacation or rest from his duties for over a year and had remained in Washington practically all the summer because of the work of his office, he deemed the early autumn a favorable time to make a brief trip to England and France and gain as much information as possible about the relationship of the war to the progress of the American Republics. In carrying out his plans he was cordially received and treated, not only by the representative officials of the British and French Governments, but by all the leading manufacturers, bankers, financiers, and other commercial leaders of those countries. They talked freely and frankly with him about the economic relationship of England and France to the countries across the

Atlantic as influenced by the war, and they discussed the possible developments of the future, realizing that it is a problem of vast importance to all the countries concerned. The Director was gratified to find that nearly all the men he met were either familiar with the work of the Pan American Union or glad to know more about its scope and undertakings.

They were also interested in hearing about the growth of closer trade relations between the Latin-American Republics and the United States and the increased investments of United States capital in the Latin-American countries. They did not appear surprised that the war had been a powerful factor in promoting Pan American solidarity, Pan American commerce, and Pan American cooperation, but they seemed gratified when the Director General pointed out to them that there was nothing in the spirit or purpose of the Pan American Union which was antagonistic to the countries of Europe, but that it was rather the organization of a group of Republics, having similar interests, to promote the welfare of each and all. Such an organization is no more antagonistic to other countries than the chamber of commerce in one city is antagonistic to other organizations or to chambers of commerce in other cities.

Among all classes of men in England and France, the Director General found the belief that those countries should make every effort to retain and build up their trade with the Americas, and that after the war they should leave no step neglected to regain what commerce they may have lost as a result of the conflict. The opinion, moreover, was unanimous that, despite the heavy burden which Europe has had to bear in financing its war, it would still find money to invest in those American Republics which were in need of loans for governmental purposes and in worthy private enterprises where such investments would help the commerce and trade of the countries assisting in such financing. He also found a strongly expressed desire, among both officials and business men interested in trade with America, to cooperate with the corresponding men and interests of the United States. It was the feeling that there is abundant room in Latin America for the commerce, not only of the United States but of Europe also, and that the greatest good of Latin America, the United States, and England and France would be promoted by a spirit of cooperation.

Mr. Barrett was exceptionally fortunate in being invited by the British and French authorities to visit the actual battle front in France. Although such an experience was not expected by him when he left the United States and had nothing to do with his actual mission, he accepted this offered courtesy because it afforded him a rare opportunity of seeing the active side of the greatest of

wars. As he, moreover, had been a war correspondent during the Spanish-American War, the thought of being at the real front appealed to his imagination. He saw a good part of the fronts of both the French and British Armies, going from Verdun to the Somme. The trip was much facilitated by the fact that Mr. Barrett was shown the special honor of being accompanied by Monsieur Henri Ponsot, the chief of the publicity bureau of the French Foreign Office and by Capt. Bloch Laroque, of the French general staff. In the party also for the visit to the French lines were Capt. Asher Baker (retired), United States Navy; James Deering, Esq., of Chicago; and Mr. C. A. Montague Barlow, member of the British Parliament. When Mr. Barrett visited the British Somme, after leaving the French lines, he was given special attention by Col. Wilson, the head of the British intelligence office in Amiens, and was taken to the actual front by Lieut. de Trafford, an able young officer on the staff of Col. Wilson.

Mr. Barrett sailed for England on the American Line steamer *Philadelphia* September 9 and returned from France on the French steamship *Lafayette*, which arrived in New York October 16.

During his stay in Europe he was shown every attention by the staffs of the American embassies and consulates general in London and Paris and by the consulate at Liverpool. He feels particularly grateful to Mr. Robert Wood Bliss, chargé d'affaires in Paris; Mr. F. M. Gunther, second secretary in London; Mr. Edward Bell, second secretary in London; Mr. Robert Peet Skinner, consul general in London; Mr. Alexander M. Thackara, consul general in Paris; and Mr. Horace Lee Washington, consul in Liverpool. He is also under deep obligation for the personal interest which the following kindly manifested in his trip: Lord Eustace Percy, of the British Foreign Office; Lord Newton and Sir Gilbert Parker, of the British Publicity Bureau; Mr. Worthington Evans, chief of the British Foreign Trade Bureau; Sir Charles Henry and Commander Carlyon Bellairs, members of Parliament; Mr. Harry E. Brittain, the well-known journalist and publicist; Capt. J. Somers Cocks, in command of the military training camp at Caterham, England; Lieut. Robert Trappes-Lomax, of the German officers' prison camp at Holyport, England; Monsieur Henri Ponsot, in charge of the publicity bureau of the French Foreign Office; Commander Count de Bertier de Sauvigny, of the French Army, attached to the British war office in London; Capt. Bloch-Laroque, of the French general staff; Gen. Nivelle, in command of the French Army at Verdun and his aides, Lieut. Col. Hoc and Capt. Louis Gillet and Capt. Lerciul; Gen. Gouraud, in command of the Fourth French Army at Champagne, and his aides, Lieut. Col. Pasquier and Lieut. Redier; Lieut. Menabria, of the French Army at the Somme; Lieut. Col. A. H. Hutton Wilson and Lieut. de Trafford

of the British Army at the Somme; Capt. A. N. Lee of the general headquarters, British Army, at the Somme; and Maj. Brett, in charge of the British intelligence office at Paris.

While Mr. Barrett's position prevents him from expressing any comparative opinion about the armies engaged in the warfare or about the differences among the nations, he is at liberty to describe what he saw. He says that he was profoundly impressed by the organization, the system, the morale, and the spirit of the French and British Armies; and that it is absolutely impossible for any person, no matter how many books, magazine articles, and newspaper reports he may read, how many lectures he may hear, and how many moving pictures of the war he may see, to have a correct picture of the magnitude of the struggle, the power of the forces engaged, and what it all means, without an actual visit to the front and the operations back of the lines. Everything is on such a vast and stupendous scale and yet it is all done with such system that the layman who looks upon it is astonished that such mighty undertakings can be continually carried on with complete order and no confusion.

In response to the request of the Associated Press, the Director General gave out on November 1 an advance summary of part of a general report which he is preparing upon the conclusions which he reached as a result of his trip to England and France. While this statement is not to be regarded in any way as official and represents only his personal views, he reproduces it in the BULLETIN for the information of all those who may be interested in the relationship of the war to the present and future commercial and economic development of the American Republics. This statement was, in part, as follows:

1. No government civil official, high or low, no army or navy officer, and no banker or responsible business man was willing to express a positive opinion as to the day when peace would be declared. It was evident, however, that the majority expected that the war would continue well into 1918, and even longer. A few expressed a hope which amounted almost to confidence that the war must end in 1917, but the wish was father to the thought rather than representing an opinion based on actual facts. While it is impossible, in a report of this kind, to make any comments upon the merits of the conflict and the differences between the belligerent nations, it is permissible to state what was actually seen and heard. With this reservation, it can be said that the sentiment in England and France seemed unanimous that the war must be carried on without relaxation of effort to the very end. This sentiment was supported by an optimism and a confidence in the outcome which manifested itself among all classes of persons. This is mentioned solely because of its bearings upon the continuation of the struggle and the consequent effect upon Pan American economic conditions.

2. A most powerful movement, supported by favorable official attitude and organization, has been effectively started in both England and France, not only to make an extraordinary effort now to maintain and advance their present trade with the Americas, particularly Latin America, and regain what may have been lost during the first two years of the war, but to prepare now for a greater effort than they have ever made before to build up and extend their commerce with the Americas.

3. Under conditions which amount to practical encouragement and almost to actual Government aid, a large variety of industries heretofore little developed in England and France because the articles produced came in abundance from other lands and hence figured slightly in the foreign trade of these countries, is being rapidly developed and will shortly play a prominent part in their future foreign commerce. It is planned that these industries shall care for not only the home demand, but for that of Latin America and possibly of the United States. This may bring about a competition with other countries, including the United States, which should be beneficial in giving Latin America an abundant and cheap supply of the articles which formerly could be obtained at a fixed price from only one country. As the United States is, moreover, endeavoring to develop many similar industries, it must be prepared for this new competition.

4. After carefully surveying the industrial situation in England and France, it is impossible to avoid the conclusion that these countries, although handicapped by the conditions and burdens of war, are developing a condition of industrial preparedness for future commerce. It is a fact that a vast practical army of skilled but reasonably paid labor, in the form of women workers, which will be continually valuable and available after the war, is being trained and developed all over Great Britain and France. This labor can not fail to increase immensely the efficiency of manufacture and the volume of output of foreign commerce, despite the loss of male skilled labor resulting from the war. It also means that there will be no serious jarring or disruption of industrial conditions by lack of labor in the readjustment after the war. This supply of female labor will continue keeping up the efficiency of manufacture and withdraw from its duties only as male skilled labor is ready or competent to take its place. It is also noteworthy that a large element of older men and a considerable number of boys who never before engaged in skilled labor are now becoming efficient and productive in the industries where they are employed.

5. Notwithstanding the extraordinary financial burdens of the war, the British and French financial and commercial interests, encouraged by official attitude and recognizing the plainly permanent injurious effect upon their foreign commerce of their present withdrawal from financing Government loans and private undertakings throughout Latin America, and that the United States money market is rapidly supplanting them in this respect, are now planning, individually, but principally through cooperation, to care for this great and developing field in the future as they have done in the past. Although London and Paris clearly realize the overwhelming advantage which New York now has over them in its supply of ready money, and even admit that the war may yet give New York the financial supremacy of the world, they with corresponding determination and confidence are organizing and cooperating in every way possible to save the situation and continue a powerful factor in the Latin-American field.

6. In all the discussion, however, of the situation one suggestion, amounting to an expressed belief, was continually made in both official and private circles—that there is abundant room in the Americas, particularly in South and Central America, for the best financial and commercial effort of the United States on the one hand and of England and France on the other. Corollary to this and almost as important was the earnest expression of the advisability and desire for cooperation, as far as possible, of the commercial and financial interests of England and France with those of the United States in caring for the financial and commercial needs of Latin America, in order to avoid a permanently ruinous competition that would be harmful to all concerned. Their officials, bankers, and commercial leaders openly said that they were ready to receive and to make suggestions in conference with the corresponding interests of the United States for the purpose of evolving cooperation along practical lines, even to the extent of necessary reciprocal official legislation of the Governments concerned.

7. In looking forward into the future, responsible Government officials, bankers, manufacturers, and editors were almost unanimous in expressing optimism rather than pessimism about the actual effect of the war on the ability and capacity of England and France to care successfully for foreign trade under the continuance of war conditions and eventually under the extraordinary but indefinite conditions which will follow the war. It is true that there were a few notable exceptions to this attitude, but in each case they expressed a determination to try to overcome their pessimism in the situation, thus reflecting, in spite of their controlling thoughts, the prevailing optimism of their associates and colleagues. Whether such an optimistic attitude is based on good grounds or not, it certainly is a remarkable commentary upon the spirit of the men and nations concerned.

8. Among all men of authority was found a gratifying interest in the work and scope of the Pan American Union as the official international organization of the American Republics, devoted to the upbuilding of commerce, friendship, intercourse, good understanding, and peace among them all. The opinion was frequently expressed that, in view of the extraordinary influence this organization has had upon the development of the trade, solidarity and peace of its constituent nations, it is not improbable that there may be organized soon now, or after the war, similar unions of European nations having like interests, for the advancement of their common welfare. They were particularly impressed with the fact that, whereas the Pan American Union is organized and conducted for the benefit of the governments and peoples forming its constituency, it is not in any sense politically antagonistic to the nations of Europe, any more than a chamber of commerce made up of men of similar interests in the same city is necessarily antagonistic to other organizations in the same city or to chambers of commerce in neighboring cities. One English statesman, who had carefully studied the history, the work, and the plan of organization of the Pan American Union, and who regarded as most significant the fact that its governing board comprising the unique membership of the plenipotentiaries of a large group of nations, declared *that he was confident that if there had existed before the war in London or Paris, in Berlin or Vienna, a Pan European union, organized upon the same basis as the Pan American Union in Washington, there never would have been a European war!*



LATIN-AMERICAN FOREIGN TRADE IN 1915—GENERAL SURVEY

THE foreign commerce of the 20 Latin-American countries for the year 1915 was \$2,469,047,020, of which \$811,268,634 represented imports, and \$1,657,778,386 exports. For the preceding year the figures (revised and corrected) are: Imports, \$907,841,133; exports, \$1,275,312,612. The decrease in imports for the year was \$96,572,499, and the increase in exports, \$382,465,774, showing a net increase in the total trade of \$285,893,275.

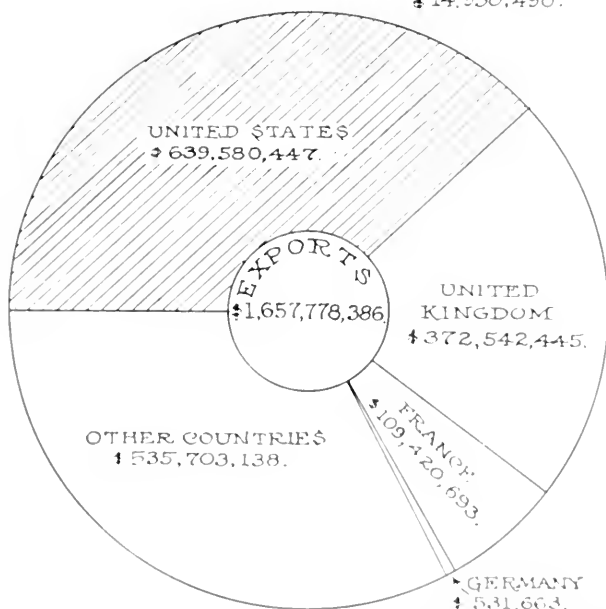
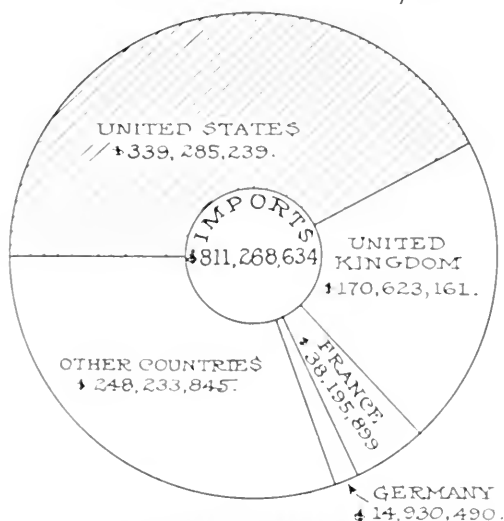
The European war conditions are reflected in the statistics of both years, 1914 and 1915. The war began on August 1, 1914. The first seven months of that year represented more or less normal conditions, but the remaining five months, running over two or three months into 1915, was a period of almost complete paralysis of trade in the Latin-American countries. Financial relations were disrupted; ships were not obtainable, and in fact almost every agency of commerce was at a standstill. The fundamentally sound economic condition of the Latin-American Republics enabled them to emerge with comparatively great rapidity from this state of industrial paralysis. This is the more remarkable in that not one of these States economically considered is self-contained, as is the United States, Spain, the Netherlands, and other neutral countries. None of them is even so well self-contained as are other neutral countries, such as Sweden and Norway. In other words, the Latin-American countries, being nonmanufacturing, depend almost entirely upon imports from the manufacturing countries for most of the appliances of industry and commerce and also for the conveniences and many of the necessities of life and, at the same time, they depend upon these same countries to purchase their raw products and foodstuffs. Furthermore internal development is conditioned upon a constant supply of foreign capital.

It was to be expected, therefore, that the world-wide paralysis of trade would have affected Latin America worse than any other section of the world not immediately within the war zone. And such was the fact. But the produce of these countries is of things that the world, at peace or in war, must have. They are articles, for the most part, of prime necessity. In consequence of this fact Latin America rapidly emerged from the state of industrial paralysis. By buying less and selling more it improved its credit. In 1915 it bought less than in 1914—nearly \$100,000,000 less—and this tended to strengthen its position. On the contrary, it sold nearly \$100,000,000 more

LATIN AMERICA

COMMERCE-1915

TOTAL \$2,469,047,020.



than in 1914; in fact, over \$100,000,000 more than it had sold in the normal year of 1913.

It is interesting to compare the figures of 1913 with the figures of the two succeeding years. In 1913 the imports were \$1,321,861,199 and the exports \$1,552,750,952. In 1914 the imports decreased over \$400,000,000, to be further decreased nearly \$100,000,000 in 1915—a total decrease for the two years of over \$510,000,000, or nearly 40 per cent.

In 1914, compared with the preceding year, the exports decreased \$277,000,000. Both the figures for imports and exports for this year represented the paralysis in the five months from August to December, inclusive. The increase of \$382,000,000 in exports in 1915 over 1914 represents the improved condition, and, exceeding, as it does, the normal exports of 1913 by \$105,000,000, takes up all and that much more of the slack due to the slump following the war.

Latin America has until now bought much less and sold much more than prior to the war. At present it is buying on an almost normal scale and continues to sell on a scale greater than before the war.

It is understood, of course, that these figures represent the measure in values and not in quantities, and that high prices account for the present increase over the normal year of 1913.

It may be of further interest, as showing the development of Latin American countries in the matter of foreign trade, to compare the figures for a period of 20 years:

Latin America—Twenty years growth in commerce.

	Imports.	Exports.	Total.
1915.....	\$811,268,634	\$1,657,778,386	\$2,469,047,020
1897.....	415,079,562	495,342,937	910,422,499
Increase.....	396,189,072	1,162,435,349	1,558,624,521
Per cent of increase.....	95	235	171

IMPORTS OF LATIN AMERICA.

What does Latin America buy? To answer this question categorically by enumeration of articles, or even of classes, would be to name nearly all the finished manufactured products of either Europe or the United States. The standards of living are practically the same as in other parts of the civilized world. The countries of Latin America are not manufacturing countries, but the people live upon about the same plane as do the people of the manufacturing countries. They therefore require the same things for their comfort and existence. The notion that a man in South America demands clothing, or furniture, or food of a different kind or a different quality, or that he builds his house and lives in a different way from a man in France, or England, or the United States is sheer nonsense. No idea has been

more overworked or mistakenly understood than that in exporting to Latin America manufacturers must send something different from what they make for home consumption in order to meet a peculiar and different standard supposed to exist in Latin America. All the amateur experts on exporting to Latin America who fill the columns of the daily newspapers and other periodical publications with advice, as a keynote use the text "Give Latin America what it wants." Of course this is all right, just as it would be all right for New York merchants to give Omaha or Cincinnati what it wanted. But the fact is that Omaha and Cincinnati want about the same things that New York wants, and so do Rio and Buenos Aires.

The man who procures from Latin America samples of what is being sold there in order to imitate or duplicate the same will find himself very much behind the procession when his goods arrive at the selling point. Latin America wants the new and up-to-date, the improved, and not the old or the antiquated. When fashions change in Paris or in New York, Buenos Aires, Rio, and Santiago will be found changing their fashions. It is quite time that a soft pedal be put upon the cry of "manufacturing to meet special requirements in Latin America."

This may be true of certain industrial material designed to meet special industrial conditions, as, for instance, railway material. Engines, cars, and roadbed may be different from what they are in the United States, and necessarily so; but there will be the same difference in these matters between one Latin-American country and another, and the manufacturer of such material will manufacture according to specifications in exactly the same manner as he manufactures for home consumption, where conditions also vary. If one has a new or useful article—something, perhaps, that never was known or used anywhere, but which in reality serves a useful purpose—he need not wait to find out whether Latin America will take this new article. All he needs to know is whether Michigan or Mississippi will take it, and if they will, then he can be quite sure that Brazil or Chile will take it. Of course, one must use a little common sense and have regard to climate and other geographical considerations. One does not expect to sell furs in Florida to the extent that they can be sold in Minnesota. Neither can he expect to sell furs in Brazil or Peru to any great extent.

LATIN-AMERICAN EXPORTS.

Latin American exports are almost entirely raw material for manufacturing purposes and primary foodstuffs, but there are broad differences as to localities of production. The products of the different countries vary in a marked degree, due principally to climate, rainfall, and soil conditions. In order to give an insight into the character of these exports, it is best to particularize by countries.

LATIN AMERICAN FOREIGN TRADE IN 1915—A GENERAL SURVEY.

Countries.	Imports.			Exports.			Total foreign trade.		
	1911	1915	Increase.	1911	1915	Increase.	1911	1915	Increase.
Mexico.....	1,878,000,000	1,885,000,000	\$7,000,000	\$165,000,000	\$156,000,000	\$2,000,000	1,823,000,000	1,824,000,000	\$2,000,000
Guatemala.....	9,331,115	5,072,476	2 1,258,629	12,751,027	11,566,585	2 1,184,442	22,082,142	16,639,061	2 5,443,081
Salvador.....	1,958,624	1,398,068	2 560,556	10,706,495	10,963,985	2 257,490	15,755,119	14,950,023	2 805,096
Honduras.....	6,624,930	5,855,000	2 769,930	3,421,331	3,858,000	2 436,669	10,016,261	9,793,061	2 223,200
Nicaragua.....	1,134,323	3,150,220	2 2,015,897	4,455,050	4,567,201	2 387,849	9,089,373	7,726,421	2 1,362,952
Costa Rica.....	7,632,880	4,478,782	2 3,154,098	10,978,541	9,971,582	2 1,006,959	18,611,121	14,450,364	2 4,160,757
Panama.....	9,885,477	9,305,477	2 580,000	3,800,517	3,318,262	2 482,255	13,685,994	12,668,739	2 1,017,255
Cuba.....	119,000,410	155,448,233	36,448,233	172,553,954	254,291,763	76,637,809	296,555,364	409,739,906	113,184,542
Dominican Republic.....	6,729,007	9,118,514	2 2,389,507	10,588,787	15,290,061	4,620,274	17,317,794	24,327,575	7,009,781
Haiti.....	7,612,792	4,344,763	2 3,268,029	11,315,559	113,000,000	1,681,441	118,328,551	117,344,763	2 1,983,788
North American Republics.....	253,910,558	285,788,503	31,877,945	411,164,261	482,776,439	71,612,178	665,074,819	768,564,912	103,490,123
Argentina.....	263,663,363	220,085,951	2 43,577,412	338,776,517	511,532,224	202,755,707	602,439,880	761,618,175	159,178,295
Bolivia.....	15,506,876	8,904,081	2 6,602,795	25,662,417	37,132,037	11,469,590	41,169,323	45,936,118	4,766,795
Brazil.....	165,746,688	166,082,483	2 335,795	221,539,029	217,176,851	35,637,822	387,285,717	403,259,334	15,973,617
Chile.....	98,461,195	55,922,218	2 42,538,977	109,381,534	117,606,351	8,224,830	207,312,729	173,528,582	2 33,784,147
Colombia.....	20,979,229	18,658,179	2 2,321,050	32,632,881	29,265,319	2 3,367,565	51,812,113	17,923,528	2 5,888,585
Ecuador.....	8,402,767	18,700,000	2 9,297,233	13,061,566	115,400,000	2 338,434	21,464,333	124,100,000	2 635,667
Paraguay.....	1,994,980	2,333,711	2 338,731	4,146,827	8,624,269	4,477,442	9,411,307	10,957,080	1,545,773
Peru.....	23,163,740	15,044,317	2 8,119,423	42,611,460	68,638,128	26,026,668	66,075,200	83,082,475	17,007,275
Uruguay.....	38,724,272	36,378,925	2 2,345,347	54,515,551	76,222,208	21,706,741	112,601,223	19,361,397	2 93,239,826
Venezuela.....	13,987,465	13,470,286	2 517,179	21,520,553	23,404,427	1,883,891	35,507,968	33,874,063	1,633,905
South American Republics.....	653,930,575	525,480,131	2 128,450,444	894,118,351	1,175,001,947	310,853,596	1,518,078,926	1,700,182,078	182,103,152
Total Latin American.....	907,841,133	811,298,631	2 96,542,499	1,275,312,612	1,657,778,380	382,465,771	2,183,153,745	2,469,047,020	285,893,275

¹ Estimated.² Decrease.³ Official returns 11 months 1915: Imports \$3,653,808; exports \$10,050,320.⁴ Statistics for the port of Jereime not included.

Mexico. In general, products of the mining industries—silver, gold, antimony, mercury, copper, lead, and zinc. Secondarily, coffee, rubber, chicle, chick peas, guayule, henequen, ixtle, mahogany, ebony, cattle hides and skins.

Central America. Coffee, the principal; in addition, bananas, gold and silver, hides and skins, rubber, indigo, and some sugar.

Cuba.—The principal exports are sugar and tobacco. In addition, molasses, distillates, iron and copper ore, hardwoods, hides and skins, honey, beeswax, and sponges.

Dominican Republic and Haiti. Sugar, cacao, tobacco, coffee, bananas, beeswax, and hides. From Haiti, in addition, some cotton and cottonseed, orange peeling, and logwood.

Venezuela. Coffee, cacao, rubber, and balatá, goatskins, asphalt, hides, some live cattle, aigrettes, and dividivi.

Colombia.—Coffee, bananas, tobacco, ivory nuts, rubber, cacao, and dividivi.

Ecuador. Cacao, ivory nuts, "Panama" hats, rubber, coffee, gold, and hides.

Peru.—Principally products of the mining industries—largely copper. In addition, rubber, sugar, cotton, wool, guano, hides, "Panama" hats.

Brazil.—The two great exports are coffee and rubber. Besides, there are hides, yerba maté, cacao, tobacco, skins, sugar, cotton, gold, manganese, nuts, carnauba wax, monazite sand.

Bolivia. The principal export is tin. In addition, there are silver, bismuth, copper, rubber, and coco.

Paraguay. Hides, quebracho extract, yerba maté, hardwoods, tobacco, oranges.

Uruguay. Wool, hides and skins, beef extracts, tallow and other animal fats, residuary animal products, wheat, and flour.

Argentina. The exports of Argentina are almost entirely of the agricultural and meat-producing industries. Of the first, wheat, Indian corn, linseed, oats, flour, and bran. Of the second, frozen and chilled meats, hides, wool, skins, residuary animal products of all kinds, meat extracts, butter, bones. Besides, there is some export of copper, of whalebone, and of quebracho wood and extract.

Chile.—Four-fifths of the Chilean exports are mineral, and the great bulk of this is nitrate of soda. Besides there are copper and bar silver. Outside of mineral exports, hides, wool, chinchilla fur, wax, some fruits, and grains.

DISTRIBUTION OF TRADE.

In total of values, the United States has led for a number of years in the commerce of Latin America, but it was only in 1913 that in the imports of Latin America the United States took the first place slightly in the lead of the United Kingdom, the imports from the

DISTRIBUTION OF TRADE IMPORTS.

LATIN AMERICAN IMPORTS FROM LEADING COMMERCIAL COUNTRIES.

Countries.	Total from all countries.			United Kingdom.		Germany.		France.		United States.	
	1914	1915	1916	1914	1915	1914	1915	1914	1915	1914	1915
Mexico.....	1878,000,000	1885,000,000	1810,000,000	1812,000,000	1811,200,000	1850,000	187,200,000	187,000,000	187,000,000	2833,215,561	2841,071,140
Guatemala.....	9,331,115	3,072,476	1,389,045	577,206	1,842,788	146,053	317,631	124,492	4,879,200	3,751,761	2,643,750
Salvador.....	4,958,621	3,980,038	1,283,636	1,700,000	1,547,796	96,000	298,285	1,250,000	2,027,782	5,177,000	2,502,043
Honduras.....	6,624,930	3,873,000	1,589,762	303,000	521,837	36,960	141,597	55,000	2,502,043	2,502,043	2,502,043
Nicaragua.....	1,134,323	3,130,220	718,264	302,294	391,411	36,960	254,108	138,218	2,502,043	2,502,043	2,502,043
Costa Rica.....	7,632,880	4,478,782	1,100,270	518,810	1,076,770	42,979	304,090	84,132	2,502,043	2,502,043	2,502,043
Panama.....	9,883,447	9,303,477	1,835,894	1,175,291	460,459	799,963	211,724	189,135	2,502,043	2,502,043	2,502,043
Chile.....	119,401,410	159,448,233	12,379,048	13,287,968	5,634,119	95,317	4,731,222	5,197,110	69,304,589	104,723,108	104,723,108
Dominican Republic.....	6,726,007	9,118,514	567,037	630,923	927,842	95,317	161,376	93,200	4,452,347	4,452,347	4,452,347
Haiti.....	4,612,762	4,344,763	409,811	296,228	338,004	20,569	345,190	167,779	6,381,688	6,381,688	6,381,688
North American Republics..	253,910,558	285,788,503	39,143,367	31,821,750	22,277,976	1,777,349	13,965,823	13,290,066	138,551,304	181,182,354	181,182,354
Per cent of imports.....	0.00	100.00	11.87	11.13	8.77	0.62	5.50	4.65	54.56	63.39	63.39
Argentina.....	203,663,363	220,083,951	89,700,441	65,748,411	38,796,249	5,483,711	21,721,747	12,911,330	35,583,912	54,474,137	54,474,137
Brazil.....	15,506,576	8,804,081	3,045,416	1,417,333	1,143,807	419,551	412,754	165,502	1,808,333	1,808,333	1,808,333
Bolivia.....	165,746,688	146,082,183	39,693,493	32,028,670	25,734,821	2,254,621	12,675,209	7,217,213	30,075,029	46,838,165	46,838,165
Chile.....	98,401,195	53,922,218	22,369,086	13,288,663	25,889,771	3,583,589	4,206,107	1,700,383	20,148,576	18,638,455	18,638,455
Colombia.....	20,973,229	18,658,179	6,346,386	3,800,000	2,570,424	1,400,000	1,249,374	1,890,000	6,486,749	2,890,177	2,890,177
Ecuador.....	8,402,767	18,700,000	2,414,662	1,300,000	1,203,506	1,200,000	326,770	1,500,000	2,770,599	2,770,599	2,770,599
Paraguay.....	4,991,980	2,333,711	1,138,021	771,037	1,356,063	161,669	251,410	56,755	416,082	416,082	416,082
Peru.....	23,193,740	13,044,347	6,365,364	3,144,436	3,144,436	1,000,000	758,034	500,000	7,633,716	7,633,716	7,633,716
Uruguay.....	38,724,272	36,378,925	13,000,000	19,000,000	16,000,000	1,350,000	1,400,000	1,350,000	2,413,438	2,413,438	2,413,438
Venezuela.....	13,987,465	13,470,236	2,893,697	2,747,357	1,589,966	.....	777,638	654,580	6,015,445	7,943,213	7,943,213
South American Republics..	653,930,575	525,480,131	187,045,966	138,801,411	110,429,163	13,153,141	46,379,043	24,905,833	115,091,879	158,102,885	158,102,885
Per cent of imports.....	100.00	100.00	28.60	26.41	16.88	2.50	7.09	4.74	17.60	30.09	30.09
Total of the 20 Republics.....	907,841,133	811,208,634	217,189,333	170,623,161	132,707,139	14,930,490	69,344,865	38,195,809	253,643,183	339,285,239	339,285,239
Per cent of imports.....	100.00	100.00	23.92	21.63	14.62	1.84	6.64	4.71	27.94	41.82	41.82

¹ Estimated.
² United States exports to.

³ Official returns 11 months, 1915; Imports, \$3,653,808.

⁴ Statistics for the port of Jeremie not included.

DISTRIBUTION OF TRADE EXPORTS.

LATIN-AMERICAN EXPORTS TO LEADING COMMERCIAL COUNTRIES.

Countries.	Total to all countries.			United Kingdom.			Germany.			France.			United States.		
	1911	1913	1915	1911	1913	1915	1911	1913	1915	1911	1913	1915	1911	1913	1915
Mexico.	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000	1,816,000,000
Guatemala.	12,531,027	11,596,583	1,476,706	1,322,271	3,112,380	50,237	3,112,380	50,237	50,237	3,112,380	50,237	50,237	3,112,380	50,237	50,237
Salvador.	10,736,495	10,963,985	265,328	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Honduras.	3,421,331	3,828,000	17,896	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Nicaragua.	1,363,050	1,567,201	367,066	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Costa Rica.	10,978,511	9,971,582	5,218,020	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223	1,138,223
Panama.	3,800,517	3,348,262	169,869	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Colombia.	175,563,954	254,291,763	15,841,983	33,033,016	1,180,000	1,180,000	2,331,067	1,135,000	1,135,000	2,331,067	1,135,000	1,135,000	2,331,067	1,135,000	1,135,000
Venezuela.	11,315,559	13,269,064	81,366	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Dominican Republic.	11,315,559	13,269,064	81,366	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Haiti.	11,315,559	13,269,064	81,366	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
North American Republics.	411,161,261	482,776,439	59,867,386	79,867,386	11,541	11,541	25,728,016	311,803	311,803	16,368,070	13,250,511	2,71	263,413,875	426,052,280	67,50
Per cent of exports.	100.00	100.00	11.68	11.68	0.07	0.07	6.26	0.07	0.07	3.98	2.71	0.15	61.56	100.00	100.00
Argentina.	338,776,517	511,532,224	99,081,942	160,022,860	29,804,479	29,804,479	29,804,479	1,200,000	1,200,000	19,372,181	39,141,316	11,580,985	87,147,548	137,147,548	137,147,548
Bolivia.	25,622,417	37,132,037	20,255,138	1,250,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000	1,180,000,000
Brazil.	221,336,429	257,176,831	31,833,290	31,066,231	10,582,411	10,582,411	18,078,982	110	110	1,036,125	29,287,313	92,045,941	107,523,931	107,523,931	107,523,931
Chile.	109,381,531	117,006,361	5,874,512	15,000,000	1,779,392	1,779,392	1,779,392	1,000,000	1,000,000	1,215,128	3,553,091	31,431,241	50,190,931	50,190,931	50,190,931
Colombia.	32,632,561	29,266,319	1,250,555	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Ecuador.	15,100,000	15,100,000	1,250,555	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Paraguay.	1,106,827	8,621,269	112,082	302,336	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Peru.	12,611,150	68,638,128	15,912,116	1,220,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Uruguay.	51,545,554	76,222,298	19,260,000	11,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Venezuela.	21,530,531	23,401,427	1,126,916	2,011,221	1,929,664	1,929,664	1,929,664	1,929,664	1,929,664	6,018,826	2,978,060	9,478,668	13,170,113	13,170,113	13,170,113
South American Republics.	804,148,351	1,175,601,917	224,990,798	301,615,079	85,796,439	85,796,439	85,796,439	186,800	186,800	65,338,211	96,170,152	224,722,163	313,528,167	313,528,167	313,528,167
Per cent of export.	100.00	100.00	28.39	25.67	9.93	9.93	9.93	0.02	0.02	7.35	8.35	25.61	26.69	26.69	26.69
Total of the 20 Republics.	1,255,642,642	1,637,778,386	284,631,159	372,542,145	111,521,475	111,521,475	111,521,475	531,663	531,663	81,706,281	109,420,693	187,106,328	639,280,417	639,280,417	639,280,417
Per cent of export.	100.00	100.00	22.32	22.46	6.75	6.75	6.75	0.03	0.03	6.41	6.61	15.20	38.65	38.65	38.65

* Estimated.

† United States imports from.

* Official returns 11 months, 1915; Exports, \$10,650,320.
† Statistics for the port of Bremen not included.

United States in that year being nearly \$331,000,000, while from the United Kingdom they were nearly \$323,000,000. The imports from Germany were nearly \$219,000,000 and from France about \$110,000,000. Since the beginning of the war imports from Germany have almost entirely ceased and imports from France and the United Kingdom have fallen. On the other hand, imports from the United States, Spain, Italy, and other neutral countries have risen very largely in proportion (i. e., in percentages of the whole importations) and in some cases have risen in amount. In 1915 the imports from the United States were over \$339,000,000, from the United Kingdom \$170,600,000, from France \$38,200,000, and from Germany less than \$15,000,000. Many of the German figures are estimates, but the amount probably does not exceed and more probably will fall below that given.

The following table shows for the three years the imports of Latin America from the four countries mentioned:

Latin American imports, three years.

	Total imports.	United States.	United Kingdom.	Germany.	France.
1913.....	\$1,321,861,199	\$339,915,267	\$322,757,575	\$218,827,871	\$109,954,670
Per cent.....	100	25.03	24.42	16.55	8.32
1914.....	\$907,841,133	\$253,643,183	\$217,189,333	\$132,707,139	\$60,314,865
Per cent.....	100	27.94	23.92	14.62	6.64
1915.....	\$811,268,634	\$339,285,239	\$170,623,161	\$14,930,490	\$38,195,899
Per cent.....	100	41.82	21.03	1.84	4.71

For the same period the exports of Latin America were as follows:

Latin American exports, three years.

	Total exports.	United States.	United Kingdom.	Germany.	France.
1913.....	\$1,552,750,952	\$477,939,264	\$329,803,547	\$192,204,270	\$121,137,111
Per cent.....	100	30.78	21.24	12.38	7.99
1914.....	\$1,275,312,612	\$487,166,328	\$284,634,459	\$114,524,475	\$81,706,281
Per cent.....	100	38.20	22.32	8.75	6.41
1915.....	\$1,657,778,386	\$639,580,147	\$372,542,445	\$531,663	\$109,420,693
Per cent.....	100	38.65	22.46	0.03	6.60

The above figures show in outline the volume of trade of the whole of Latin America with the four principal manufacturing countries. They do not, however, show the real position of the United States prior to the European war in respect to Latin American trade. The trade of England, France, and Germany, as compared the one with the other, was distributed more or less evenly over all the Latin American Republics. The trade of the United States, on the contrary, was very unequally distributed. In the northern tier of countries this trade, both on the import and the export side, was overwhelmingly ponderant. Its volume was greater than that of England, France, Germany, and all other countries combined.

Subsequent to the beginning of the war, it goes without saying that the primacy of the United States as the principal factor in Latin

American trade has extended almost all over South America as well. In 1913, for Mexico, Central America, Cuba, Haiti, and the Dominican Republic, imports from the United States represented 54.11 per cent of the total. The percentages of the United Kingdom, Germany, and France were, respectively, 12.33, 9.92, and 6.77—a total of 29.02 per cent or but little over one-half the imports from the United States. A large part of the remaining per cent (16.87) allotted to all other countries is represented by the interchange of commodities between the Latin Republics themselves—a trade seldom, if ever, competitive with that of the four leading commercial countries mentioned.

Certain of the northern countries of South America were to be included with the group above mentioned as within the sphere of United States trade supremacy.

1913 import percentages.

	Total.	United States	United Kingdom.	Germany.	France.
Colombia	100	26.74	20.46	14.06	15.45
Venezuela	100	38.51	23.27	14.35	6.06
Ecuador	100	31.89	29.63	17.80	4.92
Peru	100	28.82	26.24	17.31	4.00

In the remaining part of South America the imports from the United States were in every case much less than those from the United Kingdom, and in Bolivia, Chile, Paraguay, Uruguay, and Argentina less than from Germany, and in Paraguay less than from France as well.

Likewise in exports the preponderance of the United States, which in the first-mentioned group of northern States—Mexico, Central America, Cuba, Haiti, and the Dominican Republic—is represented by a percentage of 69.67, as compared with 12.12 for the United Kingdom, 7.68 for Germany, and 4.88 for France, extended to South America. In Brazil the United States, out of a total of a little over \$315,000,000 in exports, took \$102,560,000, against \$41,700,000 for the United Kingdom, \$41,390,000 for Germany, and \$38,685,000 for France. In the whole of South America it took 25.83 per cent of the exports, as opposed to 21.31 taken by the United Kingdom, 13.95 by Germany, and 9.05 by France.

This was the position of the United States and its principal rivals prior to the outbreak of the European war. In 1914, with five months of the war and for this period an almost complete stagnation of business, the United States had 27.91 per cent of the import trade of Latin America and the United Kingdom had 23.92 per cent. In 1915 the percentages were 41.82 and 21.03, respectively.

In exports these percentages in 1914 were: United States, 38.20; United Kingdom, 22.32. In 1915 they were: United States, 38.65; United Kingdom, 22.46.

PROMINENT IN PAN AMERICAN AFFAIRS . . .

DR. CARLOS CALDERON, one of the most prominent public men of Colombia, died September 23, 1916. In his death that country sustained the loss of an eminent statesman and diplomat, jurist and orator. For many years Dr. Calderon was identified with the social and political development of his country and had served it time and again in high office.

Dr. Calderon entered political life early in his career. When he had completed his university studies he began to practice law in Bogota. Shortly after, however, the country became feverishly active in the making of a new constitution. The important nature of this work and the opportunity it offered for service attracted him and in 1886 he threw himself into this activity. He displayed such ability and his power of address and argument was so convincing that he soon became an important factor and dominating influence in shaping this body of laws. The completed constitution not only bears his name but contains many provisions introduced and championed by him.

Among the higher offices he has held in the country were those of representative in Congress; national senator; and member of the cabinet in various administrations. His wide experience in national affairs and his familiarity with official life resulted in his being called upon frequently to accept public office. In the course of his official career he occupied nearly every portfolio in the cabinet. His services as minister of foreign affairs and as minister of finance were especially noteworthy. In connection with his experience as minister of finance he published a treatise on the Monetary Question in Colombia, which is regarded as a splendid exposition of the subject. Dr. Calderon also served as minister of Colombia to Belgium and other countries.

Although detailed information has not yet been received, there is every reason to believe that at his demise the Colombian Government paid official homage to his memory and that the nation joined his family and friends in expressions of grief and sorrow.

On September 1, 1916, there died at Caracas, Venezuela, Dr. FELIPE GUEVARA ROJAS, minister of public instruction. The announcement of his death cast a deep gloom over the entire country. It meant the loss of one of Venezuela's distinguished citizens and

eminent public officials. Although occupying a public position of responsibility in the President's cabinet, the Doctor's greatest prominence and reputation were acquired in his profession of physician and surgeon. Both in Venezuela, and in London, where he continued his medical investigations at the Royal College of Surgeons, he received the highest honors possible for efficient work.

Dr. Guevara Rojas was but 38 years old at the time of death, and in the full prime of life. He was just entering the broad field of his activities with the assurance and confidence that come with experience and maturity, when his untimely removal brought to a close a career of promise and service. Official mourning was decreed throughout the country by the Chief Executive and every national honor and respect were paid him. Tributes in the form of telegrams, messages, and eulogies filled the press. High officials of State and nation and foreign diplomatists paid homage to the deceased; scientific organizations among which he was a leader expressed their grief; literary societies which had recognized his poetic soul and literary offerings honored his memory; school and university corporations, both faculty and students, paid tribute to the Doctor whose broadening influence they had felt under his administration; while personal and professional associates joined in the universal expressions of sorrow.

Perhaps no message expressed more fittingly the nation's grief than that sent to the mother of the deceased by Gen. Juan V. Gomez, president-elect of the country, in which he said, in part:

I lack the words to express the deep sorrow which the death of your son has brought to my spirit. Venezuela has lost in him an eminent citizen who gave his country luster and renown through his scholarly attainments and his sterling personal qualities. [Translation.]

Dr. Felipe Guevara Rojas was born June 30, 1878, and after completing his early studies at the Federal College and at Santo Tomas, Guayana, came to Caracas for his medical training. He performed the usual student services at the hospital clinics and pursued the regular work at the Central University. Here he took ranking place in his classes and won numerous prizes and distinctions. While here he prepared a medical thesis which, because of its merit and its importance to the pathological literature of the country, was printed and published by the university, and in recognition of his ability he was awarded the degree of Doctor of Medicine and Surgery. In 1910 he became a member of the Royal College of Surgeons of London, and shortly after he was named a Fellow of that institution. This is the highest title which a physician can obtain in England, and only one other Venezuelan enjoyed this distinction before Dr. Guevara Rojas.



CARLOS CALDERÓN.



FELIPE GUEVARA ROJAS.



ENRIQUE NUÑEZ.



THOMAS H. ANDERSON.

Dr. ENRIQUE NUÑEZ, Secretary of Sanitation in the cabinet of President Menocal of Cuba, died on September 15, 1916, in New York City, where he had gone to study the methods employed to check the spread of infantile paralysis. With his death Cuba lost an executive of rare ability, while the medical and scientific fraternity of the Western Hemisphere lost one of its notable members.

Dr. Nuñez ranked high in his profession. He entered the cabinet of President Menocal on May 20, 1913, by virtue of his appointment as Secretary of Sanitation and Public Charities. During the period of his administration he succeeded in introducing a number of important sanitary reforms, as well as elevating the general standards of public health and hygiene throughout the country. His broad sympathies brought him close to the hearts of all, and when his body lay in state in the presidential palace, the constant stream of people, rich and poor alike, who came to pay final homage was an eloquent expression of a nation's appreciation of service.

The deceased Secretary was born in 1872 in the town of Madruga, Province of Habana. He graduated from the University of Habana in law and medicine in 1893 and 1894, respectively. In 1905 he received the Gutierrez prize from the Academy of Science. For many years up to the time of his death he was professor in the National School of Medicine and was surgeon at the Mercedes and San Francisco de Paula hospitals. He contributed many articles on medical and sanitary subjects and was Director of the Journal of Medicine. Dr. Nuñez was a member of the Academy of Medical Science, Society of Clinics, and of the Medical College.

Among the more noteworthy of his achievements while head of the sanitary department may be mentioned the creation of the infantile hygiene service and the founding of consulting stations; the inauguration of a service of visiting nurses; the organization of maternity hospitals; the inauguration of a tuberculosis sanitarium at Cojimar; the creation of milk-inspection departments; and the establishment of summer colonies for children at Tricornia. He also did much to encourage the inspection and regulation of the sale of food products, drinks, and drugs.

Upon the announcement of Dr. Nuñez's demise, President Menocal ordered the *Patria* of the Cuban Navy to proceed to Key West to bring back the remains of the deceased. He also designated certain days of official mourning, and public departments and pleasure places were closed during the period of interment. The numerous expressions of grief and the handsome tributes paid to Dr. Nuñez by official and social associates, private and professional, evidence clearly the respect and admiration in which he was held.

The death of Judge THOMAS H. ANDERSON, one time minister of the United States to Bolivia, on Saturday, September 30, 1916, brought deep regret to his professional associates and to his many friends in the United States and in Bolivia. Justice Anderson served as envoy extraordinary and minister plenipotentiary to Bolivia from 1889 to 1893. During the years that he spent in that diplomatic capacity he became thoroughly familiar with social and economic conditions, not only of the country to which he was accredited but of many of the neighboring republics of South America. He was particularly well posted on the monetary systems of South America, and when the question of a silver monetary standard was agitated in the United States, Judge Anderson delivered a number of important addresses on the subject. In connection with his diplomatic experience, the minister also prepared a Handbook of Bolivia which contained a vast amount of interesting data on that country and which for a number of years served as a valuable and authentic compendium of information.

Returning from Bolivia, the minister took up his residence at the National Capital and entered into the practice of law. In this profession he had already acquired a lucrative practice and won a high place in his native State of Ohio. In 1899 Mr. Anderson was appointed United States attorney for the District of Columbia, and two years later, in recognition of his able services, he was named a member of the Supreme Court of the District. As a member of this high tribunal, Justice Anderson was called upon to deliver decisions in some of the most notable cases that have appeared before the higher courts of the District.

Judge Anderson was born in Belmont County, Ohio, in 1848. He was educated at the public and private schools of his county and at Mount Union College, Ohio. The college later conferred upon him the honorary degree of LL. D. After leaving college, he taught school for a short time and then returned to resume his legal studies. On entering the profession he promptly made a distinct place for himself. While in Washington, the Judge delivered courses of law lectures in Georgetown University, in the National University Law School, and lectures on diplomacy at the American University, of which latter institution he was a member of the board of trustees. The late Justice was a member of the National Geographic Society, the Washington Historical Society, and the American Bar Association.



PAN AMERICA IN THE MAGAZINES

High-Grade Manganese Ores of Brazil, by Joseph T. Singewald, jr., and Benjamin Miller, is an account, in a recent number of the *Iron Age*, of this very important and constantly growing mining industry of the largest of the South American Republics. The production of manganese ore in Brazil has developed steadily from 1,130 tons in 1894 to 350,000 tons in 1915, and the industry gives still greater promise for the future. The following excerpts from the article embody some of the salient features:

Manganese is one of the few industrially important metals that the United States does not produce in quantities commensurate with its demand and consumption. Ores of manganese are mined here in only insignificant quantity, and the production is not so great now as it was in years gone by. The result is that we are forced to import annually an average of about 300,000 tons of such ores, having a value of over \$2,000,000. In 1914 one-half of this ore came in through the port of Baltimore and one-third through Philadelphia.

The European war, which has produced abnormal conditions in so many industries, has likewise affected the mining of manganese. Before the outbreak of the war, Russia was by far the largest producer of manganese ores, British India ranked second, and Brazil third; moreover, these three countries were the only important producers. While no statistics are available of the present production of Russia and India, it is known that there has been a considerable falling off in their output, particularly in the case of Russia; whereas, as we shall see presently, the output of Brazil has been rapidly increasing to meet the demand for manganese in this country.

Up to the outbreak of the war the rank of these three countries as contributors to our imports of manganese ore was British India, Russia, Brazil, and in 1913 only one-fifth of the total came from Brazil. In 1914 the imports from Brazil exceeded those from the other two countries and amounted to two-fifths of the total. The 1915 figures give Brazil a still more prominent position, both as a producer and as a contributor to our imports, over nine-tenths of the latter having come from that country.

The manganese industry of Brazil is of comparatively recent development, and considering that it is an industry subject to all the vicissitudes of the iron industry, it has enjoyed a continuous expansion since its inception in 1894.

VARIEITY OF THE MINAS GERAES DEPOSITS

With the exception of a small quantity that has been produced in the interior of the State of Bahia to the west of the city of Bahia, this output has come from the State of Minas Geraes. This State, the name of which means "mines of all kinds," was indeed rightly named, as it has always been the mining region of Brazil, and it is certainly one of the most remarkable mineralized areas of the world. A circle drawn within this State with a radius of a little more than 100 miles would include a very old diamond field that has been producing steadily for over three centuries, two important gold mines, one of which, with a depth of 5,824 feet, enjoys the distinction of being the deepest mine in the world; the world's largest and richest iron ore deposits, which, until one has actually seen them, pass the bounds of credulity; and the important manganese deposits that are about to be described, one of which has a



Photograph by B. L. Miller.

HIGH GRADE MANGANESE ORES OF BRAZIL.

Sharp contact between manganese ore and country rock which is quartzite in the Morro da Mma mine. The black line drawn on the photograph shows contact, the lighter material being rock and the darker ore.

greater tonnage of high-grade ores developed than any other known manganese occurrence. During the past year, we had the opportunity of visiting all of these deposits. The manganese deposits are so little known and yet so important and geologically interesting, that an account of them is of considerable interest.

The manganese ores of Minas Geraes are of two distinct types, occurring in separate but not far distant districts. The older district centers about Miguel-Burnier, which is a station on the Estrada da Ferra Central do Brasil, 196 kilometers north of Rio de Janeiro, and parallels the branch line that runs from there to the ancient mining town and former capital of the State, Ouro Preto. The other district centers about Lafayette or Queluz on the same railroad at kilometer 163. The centers of the two districts are consequently but 20 miles apart. The former lies at the southern edge of the great iron-ore region of Minas and the latter a short distance to the south of it.

THE MIGUEL-BURNIER DISTRICT

The manganese deposits of this district extend in a narrow belt with a nearly east-west direction from the Bocaina mine, which lies about 1½ miles southwest of Burnier, to the Rodeio mine, about 8 miles east of that place; in other words, the district has a length of about 10 miles parallel to the Ouro Preto branch of the railroad. With exception of the Rodeio mine, all of the operations are now in the hands of Carlos Wigg, administrator of the Wigg estate, the owners of the properties. The Rodeio mine lies on the Ouro Preto branch and is connected with the station Metallurgica by an aerial tram. It has been operated during the past three years by the same company that owns the Morro da Mina mine under the name of Companhia Metallurgica, and has a monthly output of 1 000 to 1 200 tons.

Mr. Wigg told us that he started mining manganese ores in 1891, on what is known as section 6 of the Wigg estate, and that he has the distinction of being the first person to work manganese ore in Minas Geraes. The first mine, located on a hill on the north side of the railroad at Uzina station, 3 kilometers east of Burnier, was worked continuously until about a year ago, when the opening had become so deep and so much water had to be contended with that it was finally abandoned. The present output, aggregating about 100 tons per day, comes principally from section 9, which lies 1 mile east of Uzina, and is supplemented by small outputs from a number of openings between Uzina and Burnier and from the Bocaina mine.

The Burnier manganese ores occur in the Itabira iron formation, which is a sedimentary series of probable Algonkian age. It is the same formation that includes the great iron-ore deposits of this part of Brazil. In the vicinity of the manganese mines, it shows a rapid succession of itabirite, schist, calcareous schist, and limestone. Most abundant is the itabirite, the limestone occurs at various horizons in the shape of lenses of limited extent, sometimes in schist, at other times intercalated between schist and itabirite, and then again wholly inclosed in itabirite. The limestone is described as dolomitic and mangiferous.

At the section 9 mine the width of the manganese bed is from 1 to 1½ meters, and it has been developed for a length of 600 meters. At other places the width of the ore body is somewhat greater, as at the Uzina mine, where it had a maximum width of over 2 meters. The mines are usually started as open cuts, but on account of the narrowness of the ore bodies they run into depth so rapidly that underground mining must soon be substituted. The soft decomposed character of the wall rock makes the ground exceedingly heavy and calls for considerable timbering.

The ores consist for the most part of amorphous or finely crystalline compact manganese oxides, with which are associated many lumps and concretionary forms similar to those so common in the brown-iron ores. There is also a certain amount of soft earthy material present. Psilomelane is probably the most abundant mineral and mixed with it is considerable pyrolusite. The ore is very high grade, averaging 50 per cent manganese, 1 per cent silica, and 0.03 to 0.05 per cent phosphorus.

THE QUELUZ DISTRICT.

The deposits of this district began to be worked a few years after mining commenced at Burnier, and this is now by far the most important area. The first mine was that at Piquery, which lies about 15 miles to the northwest of Lafayette, but after having furnished about 250,000 tons of ore it was abandoned as worked out about 10 years ago. This mine was worked by a Brazilian concern known as the Gonzalves Ramos Companhia, which also formerly worked on what is now a part of the Wigg estate. The principal mine at the present time is the Morro da Mina, located a short distance outside of Lafayette, which has increased its production to 700 tons per day. It is owned and operated by a Brazilian company known as the Companhia Morro da Mina.

A German company under the name *Mineração da Agua Preta* has been working for six or seven years the rubble ores at the east end of the Morro da Mina ground, and with an average production of 2,000 tons per month has produced a total of 200,000 tons.

On the small hill to the southeast of the Morro da Mina, the extension of that zone is being prospected by a new company known as the *Companhia Queluz da Mina*. Another working mine is the *Cocuruto*, which lies about 25 miles southwest of Lafayette and is connected by means of a 60-centimeter gauge line 40 kilometers in length with *Christiano*, a station on the main line about 30 kilometers south of Lafayette. The operator here is a Belgian company known as the *Société Anonyme de Manganese de Ouro Preto*, which about 12 years ago opened the now abandoned *Son Gonçalo* mine near the Piquery mine. The *Cocuruto* mine has been worked about seven years and produces 3,000 tons monthly.

In addition to those mentioned there are a great many other mines in the district that are now idle. Orville A. Derby, the late director of the geological survey of Brazil, says of the district:

The mining and prospecting operations thus far effected have, on account of questions of transportation, been limited to a zone 10 to 20 kilometers wide on each side of the railroad. In the zone thus defined the outcrops of ore are so numerous and large as to indicate an extremely extensive and widespread mineralization of an area that is doubtless much larger than has thus far been recognized.

This is a region worthy of attention on the part of American iron and steel manufacturers who are interested in securing their own manganese properties, as a systematic investigation of the region will almost certainly bring to light other deposits of importance.

* * * * *

THE MORRO DA MINA MINE THE LARGEST.

This deposit is by far the largest manganese occurrence yet discovered in Brazil. The 1915 production amounted to 200,000 tons, and it has produced a total of over 1,000,000 tons. Development work has proved a reserve of 10,000,000 tons, which J. de A. Lustosa, the manager of the mine, says makes this the largest deposit of high-grade manganese ore in the world. The mine is situated on a hill known as the Morro da Mina about 7 kilometers northeast of the station of Lafayette, with which it is connected by a branch railroad line, so that the ore can be loaded into the cars at the mine and requires no further handling until transferred to the boats for exportation.

The Morro da Mina is a hill that has an elevation of 1,110 meters above sea level and which rises to a height of 200 meters above the surrounding country. The ore bodies occur at the top and on the flanks of the hill as a series of lenses extending in a direction 13 degrees west, with a vertical dip and a pitch of 45 degrees to the southeast. The principal ore-bearing area has a length of 800 meters and a width of 300 meters, within which there are four important lenses overlapping in such a way that each successive lens toward the southeast lies on the northeast side of the preceding. The horizontal dimensions of the lenses from northwest to southeast are 150 by 50 meters, 400 by 100 meters, 120 by 30 meters, and 100 by 15 meters. The ores have been encountered in



Photo by Benjamin Leroy Miller.

HIGH-GRADE MANGANESE ORES OF BRAZIL.

Upper. The southeast end of the main workings at the top of the Morro da Mina manganese mine, the largest in Brazil. Lower. View in open-cut workings of the Morro da Mina mine; dark portion to left is lighter material rock.

a development tunnel which cuts the second and third ore bodies just mentioned at a depth of 130 meters below the summit of the hill, indicating that they extend at least to this depth. In addition to the ores in situ, there is a large tonnage of rubble ores on the slopes of the hill.

Most of the mining is by open-cut methods and is done by hand. Figure 4 shows the southeast end of the main workings at the top of the hill. Although mining costs are low, it would seem that with the magnitude that the operations have now attained they could be still further reduced through the use of steam shovels. Of the present output two-thirds comes from the ore in place and one-third from rubble ore and the screenings of an old dump. All of the ore is screened over a 2-centimeter screen, and only the oversize is shipped. The undersize, constituting about 15 per cent of the product, contains 35 per cent manganese and is being stored on a separate dump to be subjected to washing or other beneficiation at some future time.

MINING AND SHIPPING COSTS.

In 1914 mining costs had been reduced to 60 cents per ton, and with the increased production of 1915 were doubtless still lower in that year. The freight rate to Rio de Janeiro is \$1.50 per ton. Before the war freight rates from Rio de Janeiro to Europe or the United States were \$3 to \$3.50 per ton, but have now increased to \$7.50 to Europe. Exports to Europe have practically ceased, so that nearly all of the ore is now coming to this country, and is carried principally in sailing vessels at the rate of \$5 per ton.

There are 500 men employed at the mine, and the company is showing a commendable spirit in caring for them. On the north slope of the hill a miners' camp has been constructed for them, consisting of a number of simple but attractive houses, which are rented at 75 cents to \$2.50 per month, this rental representing 10 per cent on the cost of construction.

Francisco Goya y Lucientes, the great Spanish painter, is the subject of an article that appeared in a recent number of the Spanish *BULLETIN*. The English translation follows:

Among the paintings exhibited at the ninety-first annual exhibition of the National Academy of Design, held recently in the Fine Arts Building in New York City, an exceptionally meritorious canvas by F. Luis Mora, entitled "Fantasy of Goya," attracted great attention and aroused much favorable comment among visiting art connoisseurs. The painting shows the great Spanish artist in his old age, seated and holding in his lap a portfolio. On the aged face is a dreamy, far-away look of reminiscence, while all about him in the shadows of the background and in the high light of the foreground are clustered the chief figures of some of his best-known creations. The picture is a splendid tribute to the greatest of the Spanish painters of a hundred years ago, and serves to revive interest in his romantic career and remarkable work.

Francisco Goya was born in 1746 at the little town of Fuentes de Todos not far from Saragossa. His parents were ordinary, hard-working people unable to give the boy educational advantages, but his passion for drawing came to the attention of an artist by the name of José Luzan Martínez, who had been a pupil of Mastroleo at Naples, and the artistic genius of the young peasant found in him a willing



Courtesy of The Volta Review.

FRANCISCO GOYA Y LUCIENTES.

One of Spain's greatest artists, born at Fuentes de Todos near Saragossa in 1746, and died at Bordeaux, France, in 1828.



Courtesy of The Volta Review

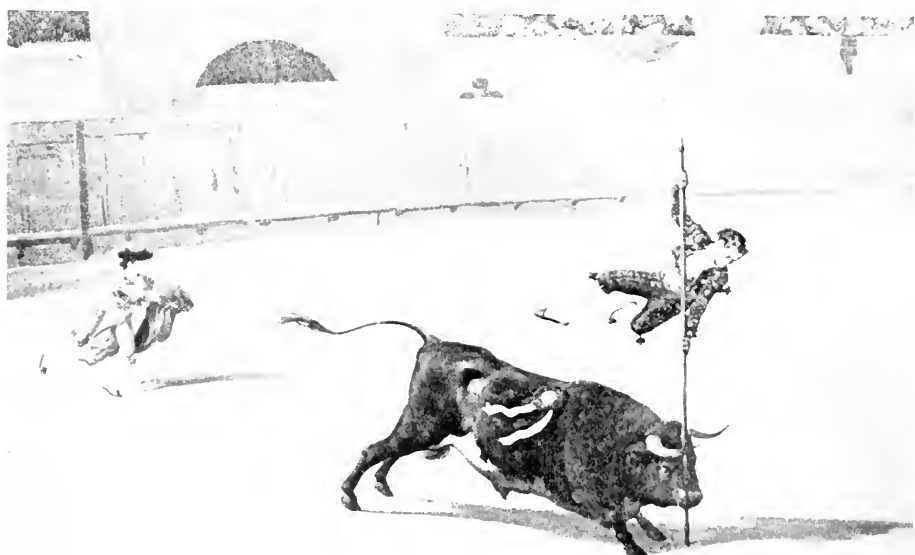
A VIEW OF SARAGOSSA BY GOYA.



Courtesy of The Volta Review.

THE SPANISH KING AND THE ROYAL FAMILY.

One of the famous paintings by Francisco Goya y Lucientes.



Courtesy of The Volta Review.

THE BULL FIGHT, BY GOYA.

instructor. He was but 12 years of age at the time he received his first lessons. It seems that he was of a passionate and somewhat turbulent nature, and even at an early age became involved in many difficulties. At the age of 19 he was sent by his friends to Madrid to continue his studies, and from all accounts he led something of a wild life at the capital. He remained there for a year or two when, determining to go to Rome to study his art and having no means, he made his way thither by adopting the career of a bullfighter, finally reaching his destination broken in health as well as in pocket.

It was while in Italy that his first notable work was produced, in 1772, one of his pictures being awarded the second prize in a competition initiated by the academy of Parma. His gallantries and reckless love of adventure again involved him in difficulties, and it soon became advisable for him to leave Rome. He returned to Spain in 1775 and married the daughter of a well-known Spanish artist, Bayeu. On returning to Madrid he commenced painting canvases for the tapestry factory of Santa Barbara, in which the King of Spain took much interest. Between 1776 and 1780 he appears to have supplied 30 examples, for which he received about \$6,000. From this time his career assumed its most brilliant phase. Something of his character may be gleaned from the following excerpts from a biographical sketch by Adelaide B. Stilwell in the July number of the *Volta Review*.

When the year 1780 arrived Goya was 31, and despite the wildest of escapades, had worked hard, executed numerous pictures, and painted many portraits, already having achieved the honor of being named an academician. The Cathedral of Saragossa was just then finished after being rebuilt, and the decorative work was intrusted to Goya's father-in-law, who found it far too heavy a task for one pair of hands, so he called in the assistance of his brilliant son-in-law Francisco. * * * Meanwhile the painter had been introduced at court, where he had so ably portrayed the King that success was assured; yet this was due as much to personal as to artistic influence, owing to the forceful, magnetic personality of Goya, and his position at court became peculiarly independent. For 20 years the Spanish court had been but too dull, oppressed under a crushing load of etiquette, and at last was frankly tired of its outward decorum; so the reaction had set in there even as it had done in England at the Restoration. Goya was welcome, for his ready resource, his impudence, was a relief, while with women of rank he gained plentiful influence through sheer intellectual audacity. Only too willingly the artist displayed his talents and reaped a rich reward, becoming in time court painter with the title of Excellence, a term rather more applicable to his art than his conduct. The Queen found him most amusing, either as a walking newspaper, courtier, or philosopher, and in those joyous days Goya found such an atmosphere admirably suited to his temperament, both as painter and satirist. * * *

Such tropical sunlight of success was not destined to last too long. One of Goya's best friends, the charming Duchess of Alba, was sent in exile to her estate at Luca. The artist would not allow her to depart alone, and during their journey the chaise broke down, when Goya gallantly attempted to play blacksmith and mend the broken axle. That severe exertion brought on a chill, which resulted—most unfortunately for him—in complete, permanent, and hopeless deafness. After that, soured temper



Courtesy of The Volta Review.

A YOUNG SPANISH WOMAN, BY GOYA.

took the place of gaiety, and the artist's nearest and dearest suffered from his fits of ill humor. After a year the court recalled its favorite painter, and he so successfully pleaded for the banished duchess that she also was recalled, yet did not long survive the return to favor, for death claimed her soon afterwards, while she was still at the zenith of youth and beauty.

Goya was an indefatigable worker. Among the notable commissions from the King was the designing of a series of frescoes for the Church of St. Anthony of Florida, Madrid, and he also produced works for Saragossa, Valencia, and Toledo. Over 40 years after his death, soon after the revolution of 1868, an official was appointed to take an inventory of all works of art belonging to the nation, and in one of the cellars of the Madrid palace were discovered 43 of Goya's works on rolls long forgotten and neglected.

In portraiture Goya was a master. His portraits are evidently lifelike and unexaggerated, and he disdained flattery. He worked rapidly, and during his long stay in Madrid painted, amongst many others, the portraits of four sovereigns of Spain—Charles III and IV, Ferdinand VII, and "King Joseph." The Duke of Wellington also sat to him, but on his making some remark in regard to his manner of working which aroused the artist's anger, Goya seized a plaster cast and hurled it at the head of the Duke. There are, however, two extant pencil sketches of Wellington by Goya, one in the British Museum, the other in a private collection. One of Goya's best portraits is that of the lovely Andalusian Duchess of Alba.

Including the designs for tapestry, Goya's genre works are numerous and varied, both in style and feeling, from his "Al Fresco Breakfast," "Romeria de San Isidro," to the "Curate Feeding the Devil's Lamp," the "Meson del Gallo," and the painfully realistic massacre of the "Dos de Mayo." His versatility was remarkable. In his hands the pencil, brush, and graver were equally powerful. Some of his crayon sketches of scenes in the bull ring are full of force and character, slight but full of meaning. He was in his thirty-second year when he commenced his etchings from Velasquez, whose influence may, however, be traced in his earlier work. Goya is more widely known, perhaps, for his etchings than for his works in oil; the latter necessarily must be sought in public and private collections, principally in Spain, while the former are known and prized in every capital in Europe.

In 1822 Goya left Spain and went to France. After a short stay in Paris he finally went to Bordeaux, where he lived at the home of his friend and patroness, Madam Weiss, until his death at the age of 82, on April 16, 1828.

In commenting on his work the critic in *The Volta Review* writes:

Francisco Goya was at one and the same time satirist, courtier, and violent agent of the Revolution. In his career the courtier protected the radical, while both in turn were protected by the artist. Thus when Goya was called before the Inquisition for



Courtesy of The Volta Review.

FANTASY OF GOYA, BY F. LUIS MORA.

This fine canvas, executed by F. Luis Mora, attracted much attention at the ninety-first annual exhibition National Academy of Design in the Fine Arts Building, New York City.

publishing dangerous etchings he was shielded as artist by the King, who bought the pictures, although the Queen was sadly satirized in those etchings. How often did he illustrate those hateful vices of tyranny and cruelty, with every horrid detail at the command of his terrible genius, having no doubt a purpose to inculcate such lessons with exceeding bitterness, even as the sharp acid bites keenly into the etcher's plate. His satire may be best compared to Hogarth's in England, but the latter's work is like lemon juice beside Goya's vitriolic methods. For his time in that line of work he stands alone for strength, skill, and effrontery.

The Salmon of the Pacific is the subject of a recent story in the Latin-American editions of the *BULLETIN*. While an industry of the United States, nevertheless the story of the salmon may be of interest to many readers of the English edition.

Millions of cans of salmon are sold annually; countless households and hotels include this nutritious fish in their menus; numerous are the ways in which this wholesome dish is prepared to tempt the palate of the epicure; and yet if the question were asked about the life, habitat, and preparation of this fish, how few would be able to answer it. The satisfaction derived from the finished product is frequently such as to completely obscure the elemental factors that enter into its making.

And so it is when there is placed before the diner the dainty salmon salad, prettily pink in its freshness, spread upon the green lettuce leaves, seasoned with oils and dressings, and blended with the savory flavors of celery and cucumbers. Strange and distant would be the thought of swiftly flowing streams carrying in their wake thousands upon thousands of these monarchs of the fish kingdom. It would be difficult to associate with this tempting morsel the idea of nets and traps placed in the midst of streams to catch tons of these bright silver fishes. And the idea of ponderous grinding machinery, cutting, cleaning, drying, packing, and steaming the salmon meat to be distributed to all parts of the world would certainly not suggest itself to the happy diner whose mind is by this time set on a second helping rather than on the derivation of the food.

And yet the story of the salmon is of absorbing interest. It is unique in the life history of the lower kingdoms. It is a well known habit of this fish to come to fresh water to spawn. After a life of about four years spent in the seas, growing, accumulating fat, and storing energy, the salmon moves inshore, and returns to spawn invariably to the same place in which it was hatched. Once it enters fresh water, it takes no food, although the journey shoreward may have been many hundred and even a thousand miles, upstream all the way, and over apparently impossible falls and wildest rapids. At the place of nativity the males and females, much wasted in flesh from fasting, pair off, dig a nest, using heads, tails, and fins with almost human intelligence. The eggs are then laid, from two to six thousand to each fish. And now occurs one of nature's mysteries, the most



SALMON BELOW AND IN A FALLS IN AN ALASKAN STREAM.

The leaping powers of the north Pacific salmon are worthy of admiration. The skill, zeal, and persistence with which these fish overcome obstacles, ascend rapids and cascades, and surmount falls while on their way to their spawning grounds are remarkable. The bulldog pertinacity with which the fish continue on their way in some instances they travel 2,000 miles from the ocean, and ascend a river to their spawning grounds shortly after spawning.



SALMON RUNNING THE RAPIDS.

The strength of these fish is evidenced by their wonderful runs through water which would seem calculated to dash them to pieces. No rapid is too rough for them to scale and no falls too high for them to attempt. Washed back by the current, limp and exhausted, they retreat to a still place, rest up, and come back to try it again. Leaving upward and ascending falls from 12 to 20 feet they fight their way back to the point of nativity where, as a spawn, they were hatched. If not captured by net or trap, they eventually reach the fresh-water stream where, after spawning, death follows shortly.

characteristic and remarkable event in the life of the Pacific salmon. Every individual of every species dies shortly after spawning. It has done its life work.

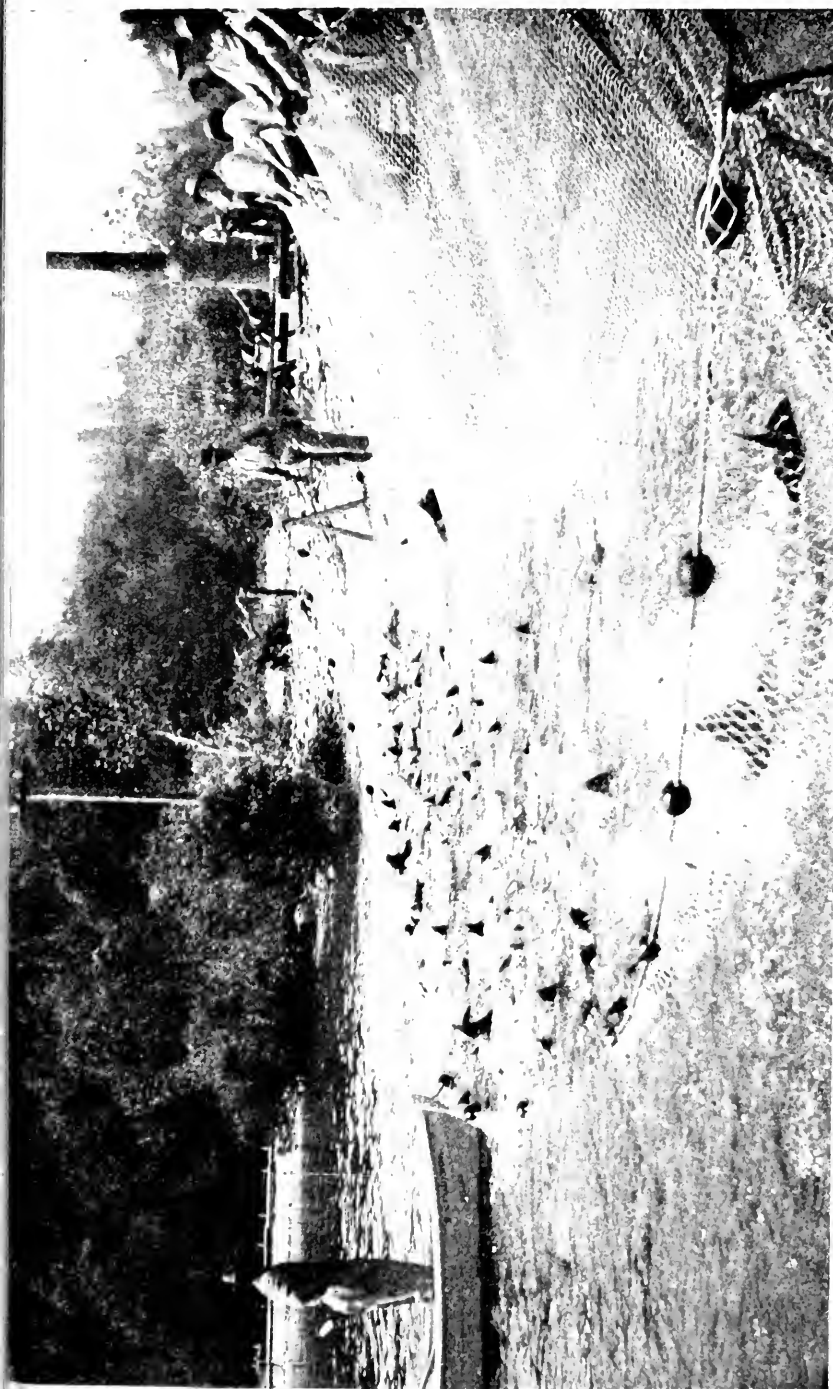
The eggs hatch within one to six months according to the temperature of the water, and a minute swimming creature, called an alevin, appears, hiding among the pebbles, eating nothing, and unable to swim. Soon it begins to grow rapidly and sets out on its often long journey to sea, traveling mostly at night, and at the rate of 10 miles or more a day, for weeks or months. Now grown to a sizable fish, it lingers a long time in the brackish river mouths, for it is unable to bear an immediate change from fresh water to salt. Reaching its home in the sea, it becomes a powerful aggressive fish, often gamy, and here probably not far from the mouth of the river in which it was spawned the salmon makes its home for years, usually four, preparing for the final ordeal and purpose of its life.

Upon reaching full size some instinct drives it into the fresh water again for spawning purposes, and it is while on this journey that fishermen lie in wait with all manner of devices to entrap it. Traveling as they do in immense schools, the trapping devices are necessarily large for the big hauls. At some points the seining methods with gill nets are used. This scheme embodies fishing on a grand scale, since the hauling of the seine is too heavy a task for human beings and is performed by horses that plunge into the water. When the net has been drawn in, a cordon of fishermen make sure of their catch by lifting the net as high as possible out of water, while other workers inside toss the fish into the open boats waiting close at hand.

In trapping the most ingenious device employed is the "fish wheel." These resemble somewhat the old-fashioned mill wheel and are turned by the current of the stream. They catch the fish as they attempt to pass up the river, and, carrying them aloft with the revolutions of the wheel, empty them into a boat connected with each trap.

Another type of trap consists of a series of inclosures walled with nets, into which the fish go in numbers. Once inside the salmon roam from one to another of these inclosures in their efforts to escape, until finally they find themselves in a huge net, which will hold 30,000 to 40,000 fish at a time.

There are five distinct species of the Pacific salmon, constituting a group, closely resembling the Atlantic salmon, but separated by marked anatomical and physiological peculiarities. All of these species occur on the California coast, from the northern border of California to Alaska. However, the majestic stream, the Columbia River, which for over 200 miles forms the boundary between the



NETTING SALMON IN THE COLUMBIA RIVER OF THE UNITED STATES.

While the volume of the catch of the Pacific salmon runs with more or less regularity annually, some of the species in particular regions and streams exhibit a marked periodicity in abundance, so well established that it can be predicted with certainty years in advance. The climax of abundance in two of the species is every fourth year; in another species, every two years. This periodicity is an indication of the age of the fish when mature. In one case, for example, a big run, with the deposition of a large quantity of spawn, has its major effect four years later in the same region—that is, the normal life from its birth as an egg to its death as a parent is four years; in another case it is two years.

States of Oregon and Washington, is the heart and center of the salmon industry. It is in that river that the largest of the class, the most magnificent of all the salmons, the Royal Clinook abounds. It has an average weight of nearly 25 pounds, and is often caught weighing 40 to 60 pounds, while occasionally examples of over 100 pounds are taken.

So successful are the devices and so numerous are the salmon that have their habitat in the northwest section of the United States that salmon fishing and canning have become the backbone of its prosperity. During the 50 years that have elapsed since salmon canning began more than 85,000,000 cases (each holding 48 one-pound cans) have been packed. The weight of the fresh salmon entering into this output has been over five billion pounds. Recent years have witnessed marked changes in the relative amounts of salmon canned, salted, and sold fresh or refrigerated, but much the largest proportion of the catch is still canned. The market value of the salmon of the Pacific States, British Columbia, and Alaska, which is sold in a canned, salted, smoked, frozen, or fresh condition is nearly \$28,000,000. Thirty-five thousand people are engaged in the different branches of the industry, and the invested capital is fully \$30,000,000. In fine, the Pacific salmons are the most valuable fishes not only of the United States, but of the entire Western Hemisphere, and, with the single exception of the sea herrings, are commercially the leading fishes of the world.

Developing the Practical Utility of Aviation in South America is the title of an article in the Spanish edition of the BULLETIN, of which the following is the English version:

As an agent of destruction and an aid to war, aviation has reached quite a high state of development in Europe. For scouting purposes and for killing scientifically trained aviators the heavier-than-air machines of all the belligerent countries are proving their utility. The first extensive practical use, therefore, of one of man's greatest achievements—the conquest of the air—has been to destroy human life. A sad commentary on the world's slow progress from barbarism to enlightenment!

Naturally, the development of an invention in regard to its utility is largely determined by the conditions under which it is studied and perfected. Had Europe continued to pursue the even tenor of its peaceful way and the thought and energies of its various peoples been directed toward the promotion of friendly relations and the perfection of easy and rapid means of communication and transportation between the several nations, by this time, no doubt, the Zeppelins and aeroplanes would have been put to many more humane and beneficent uses. Only a short time before the war began the Zeppelin had been improved in size, safety, and carrying capacity to such an

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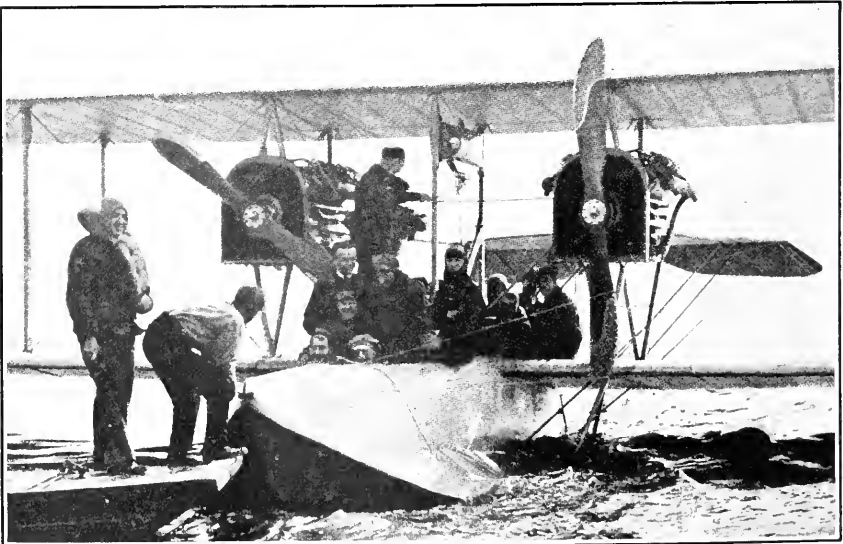
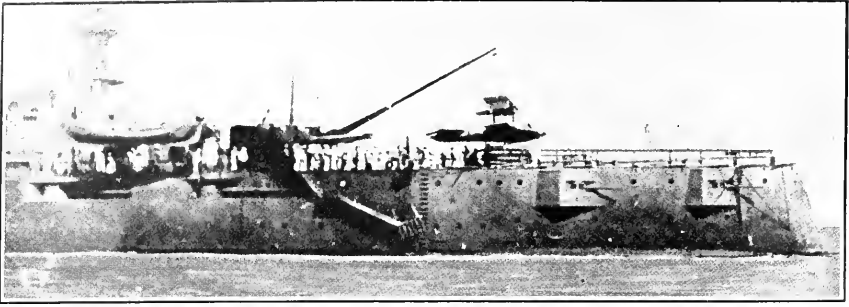
CARLSTROM ARRIVING AT GOVERNORS ISLAND, N. Y.

On November 2, 1916, Victor Carlstrom accomplished the feat of flying from Chicago, Ill., to Governors Island, N. Y., a distance of 867 miles, with but two stops, in 8 hours 28 minutes and 30 seconds. In his continuous flight from Chicago to Erie, Pa., a distance of 452 miles, he broke the American nonstop record. On November 19 a woman aviator, Miss Ruth Law, also attempted the Chicago to New York flight and broke Carlstrom's record for continuous flight by flying from Chicago to Hornell, N. Y., a distance of 590 miles, without descending. The stop at Hornell was occasioned by an insubstantial supply of gasoline, but she had made the world's woman record in aviation for continuous flight. In connection with aviation matters it may be well to note that The Aero Club of America, in order to further encourage Pan American aeronautics, has decided to offer three medals of merit to a number of Latin American countries for the best students' essays on certain phases of aviation, such as (1) Military aviation; (2) Mechanical development in aeronautics; (3) Possible application of aircraft for military purposes. Such medals have already been offered in 30 leading universities of the United States by the club. The Latin American universities in which the medals are to be offered will be notified as soon as the selection is made.



NEW TYPE OF AMERICAN AEROPLANE.

This aeroplane, equipped with three planes, has been recently developed and in its trial tests has established a world's record for ability to climb great heights with rapidity, ten thousand feet can be reached in about 10 minutes. It weighs 1,000 pounds, and is equipped with 100-horsepower motor. Another type of scouting machine possesses as a striking feature the fact that it is constructed without the use of bracing wires. The head resistance of the craft is so materially reduced as to be able to establish a new world's speed record for planes of 100 horsepower. It has been driven at the rate of 119 miles per hour, and it is expected that with some slight alterations a speed of 125 miles per hour can be obtained.



Courtesy of Flying.

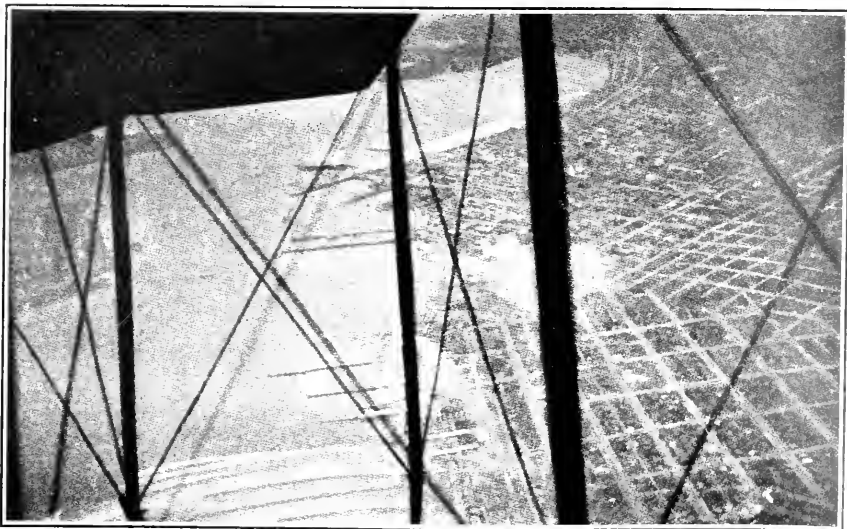
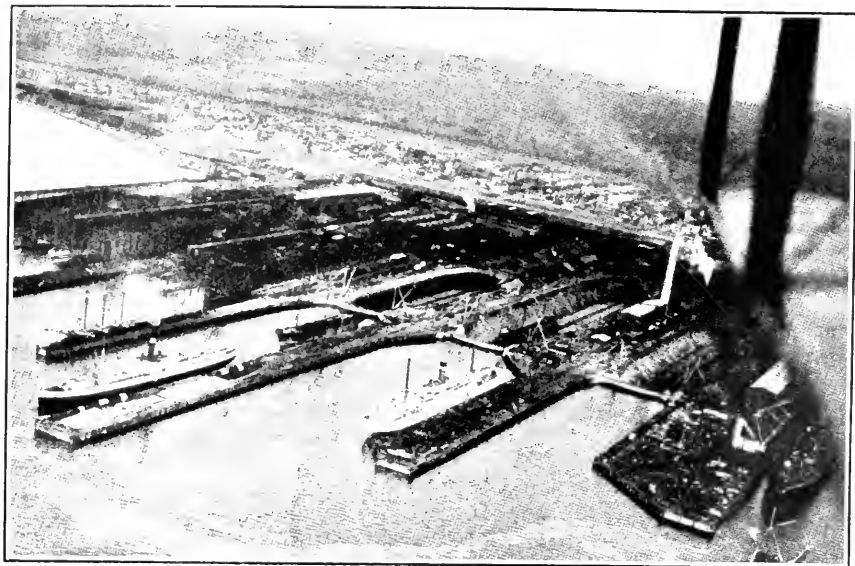
TYPES OF AEROPLANES AND HYDROPLANE POPULAR IN THE UNITED STATES.

Upper picture: Flying boat being launched from the afterdeck of a warship of the United States Navy. Middle picture: A twin-motored aeroplane with which Victor Carlstrom flew 614 miles in 8 hours and 41 minutes. Lower picture: A hydroplane with 16 men on board. This type of machine is adaptable for Coast Guard work and general cruising.

extent that it had become a factor in tourist exploitation. A German company was offering tourist tickets which covered a voyage from New York to various points in northern Europe utilizing steamers, Zeppelins, and railway trains—the sea, air, and land—en route to the point of destination. But the war stopped all this development very promptly. The pleasure ships of the air became monsters of destruction and the “bird men” changed to falcons of prey. The best thought of Europe since then has been given to devising the most efficient methods of killing fellow human beings.

Happily, however, there is still quite a large portion of the world where men of brains, of courage, and initiative, are directing their attention to the pursuits of peace and to the advancement and conservation of the human race instead of toward its destruction. The Western Hemisphere has still retained its sanity, and to-day its peoples are carrying on the work of fostering the agencies of peace and of perfecting the various instruments whereby humanity may be made better and happier. Several factors enter into the problem of promoting peace and friendship between peoples and nations, but among them all perhaps none is more potent than that of acquaintance and constant friendly intercourse. Aviation, as it is being developed in South America, promises to promote such relations rapidly and effectively and its progress is therefore a matter of interest and worthy of note.

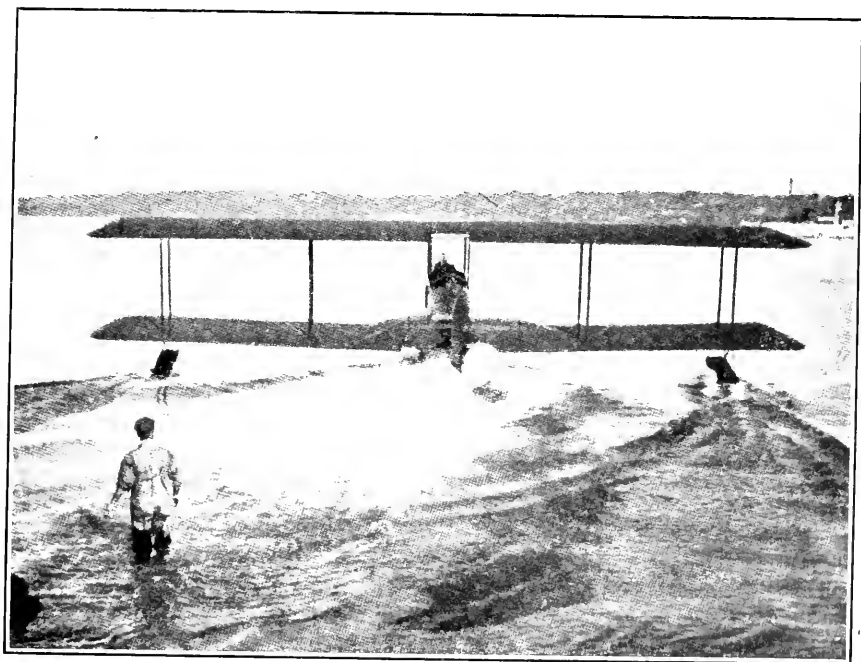
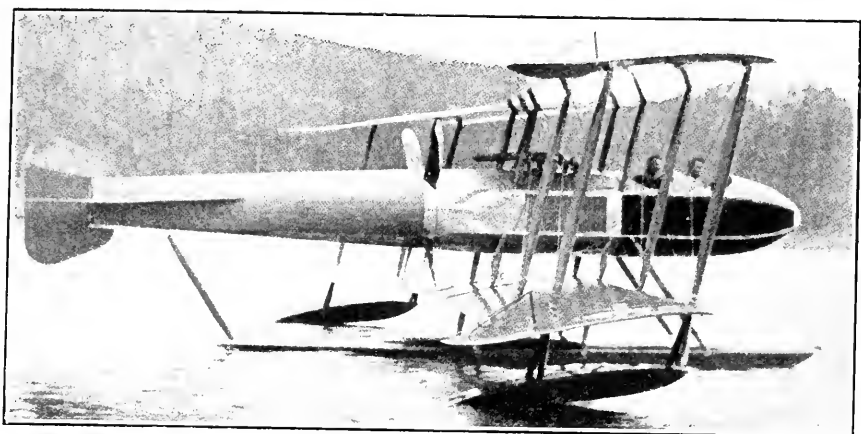
Generally speaking, physical conditions have much to do with the facility with which communication can be carried on between more or less widely separated peoples. Distance, however, is but one factor, and often not the most important. A letter may be carried by the fast mail trains of the United States from New York to San Francisco, a distance of about 3,000 miles, in less than five days. From a Pacific port of South America to certain inland towns on the eastern side of the Andes, perhaps not over 300 miles distant, it may take a letter three weeks to reach its destination. But at this point there is no railroad over the Andes. Again, a traveler may cross the South American Continent from Buenos Aires to Valparaiso, Chile, a distance of 888 miles, in 36 hours, while it will take him as many days to cover half that distance in other sections where tropical wilderness or almost insurmountable heights must be crossed. The topography of the country to be traversed is thus often a determining factor as to ease and rapidity of communication if only ordinary means are to be relied upon. The one means of communication, however, which is practically independent of the character of the earth's surface is that of the air. The wireless telegraph and telephone have practically eliminated the physical surface obstructions to communication of a more or less limited character; aviation is sure to eliminate such obstructions to the extent that communication



Courtesy of Flying.

PHOTOGRAPHS OF NEW YORK CITY TAKEN FROM AEROPLANE.

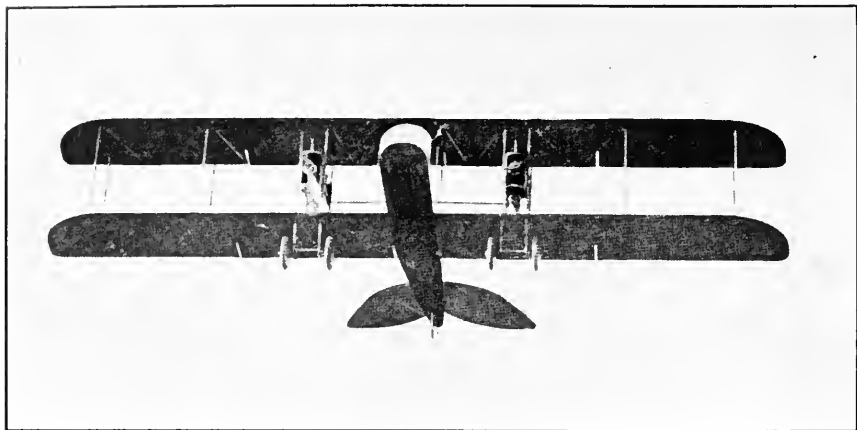
On Long Island, a portion of which is included within the city of New York, there is the greatest flying field in the United States. A school has been established where instruction is given in flying and in the care of machines.



Courtesy of Flying.

NEW TYPES OF SEA PLANES.

Upper picture: One of the new 300-horsepower sea planes built for the United States Navy. The machine is equipped with two engines connected with a single propeller, and it is possible to use either engine or both, as desired. Lower: A new type of sea plane which carried a 600-pound load 12,362 feet high for 1 hour and 32 minutes. These machines are expensive, the selling price of the lower being \$12,000.



Courtesy of Flying.

AVIATION IN THE UNITED STATES.

The United States Government is to spend \$13,000,000 on flying machines and balloon equipment. The upper picture shows one of the new twin-motored machines flying in an aviation field near New York. Lower picture: Kite balloon presented to the National Guard of Ohio by a large manufacturer in that State. Many new features are embodied in its construction.

may be unlimited and rapid transportation will be possible between places hitherto separated by almost impassable barriers.

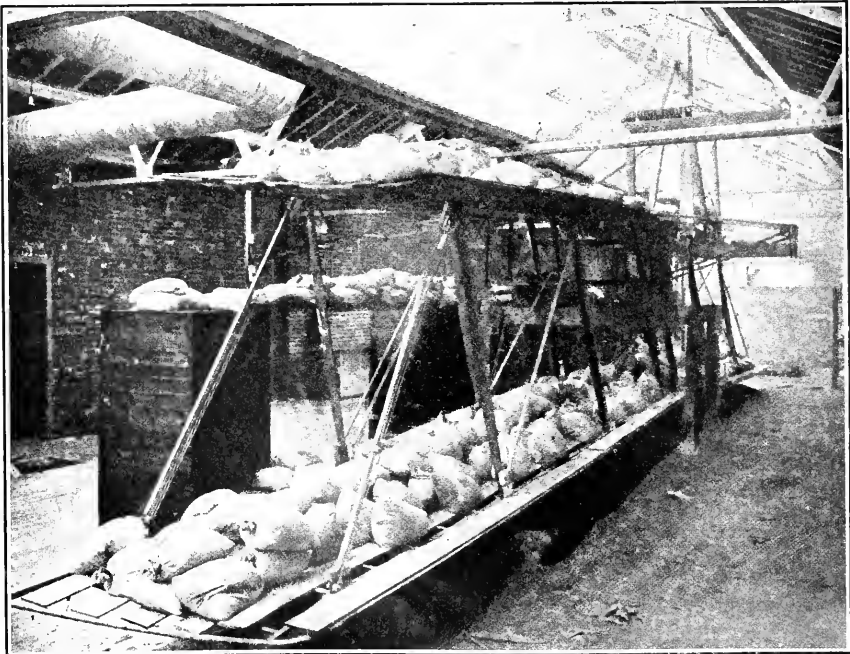
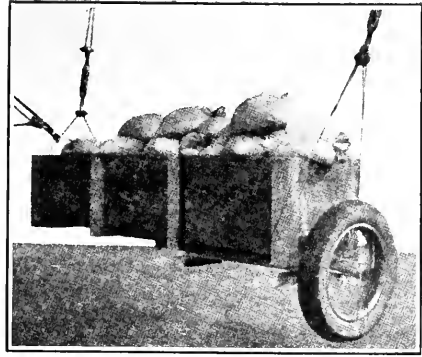
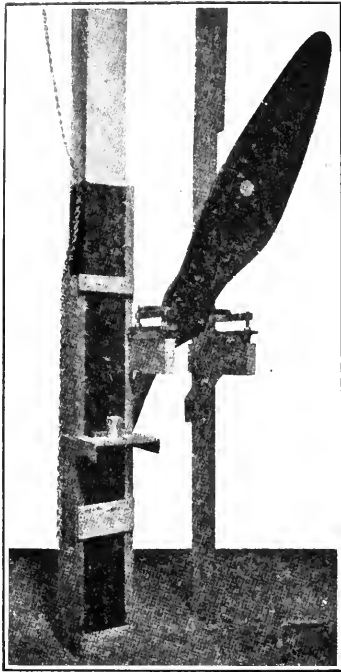
In no large section of the world has the physical structure of the earth's surface been such a potent factor in limiting communication and transportation as in South America, particularly on the west coast, where the mighty Andes raise a wall between the coast cities and the interior. With dauntless courage and energy the people have overcome this obstacle in several places. The highest, steepest, and most remarkable railways in the world are to be found there, railways that have cost in some parts as much as \$100,000 per mile, but the tremendous expense of such undertakings has necessarily limited their number. The erection and maintenance of telegraph lines was also a matter of great difficulty and great cost. When wireless telegraphy was perfected it was a godsend to these people and to-day this means of communication is to be found in more common use in the countries of South America than anywhere else in the world. Just as soon as a new method of communication is shown to be practical the South Americans can be depended upon to adopt it, and it is not surprising to find them now taking the lead in developing the practical use of aviation as a means of communication and transportation.

Last March the First Pan American Aeronautical Conference was held in Santiago, Chile. Delegates from nine American Republics were in attendance, among them the best known and most skillful aviators of the continent. The Pan American Aeronautic Association was formed, with Sr. Don Jorge Matte Gormaz, of Chile, as its first president; Mr. Courtland F. Bishop, of New York, first vice president; and Sr. Don Alberto Mascias, of Argentina, secretary general. The great pioneer in aviation, Senhor Alberto Santos-Dumont, of Brazil, was in attendance, and was made the first honorary president of the association.

Santos-Dumont is a remarkable man. The world owes much to his daring experiments in aviation, and it has acknowledged the debt, for his name is honored in every civilized country on the globe. He is not only a man of daring courage and initiative, but he is a man of vision and action. He is now engaged in instituting active measures to promote the practical application of aeronautics in South America. What he expects to accomplish may be gathered from the following quotations from a statement he recently made:

Ten years ago I piloted my very primitive aeroplane for a few seconds, covering a distance of less than 50 meters, and the fact was reported all over the world as a tremendous achievement. To-day I am traveling through South America making plans to establish aeroplane lines between different points to solve difficult problems of transportation which restrict the development of the resources of South America.

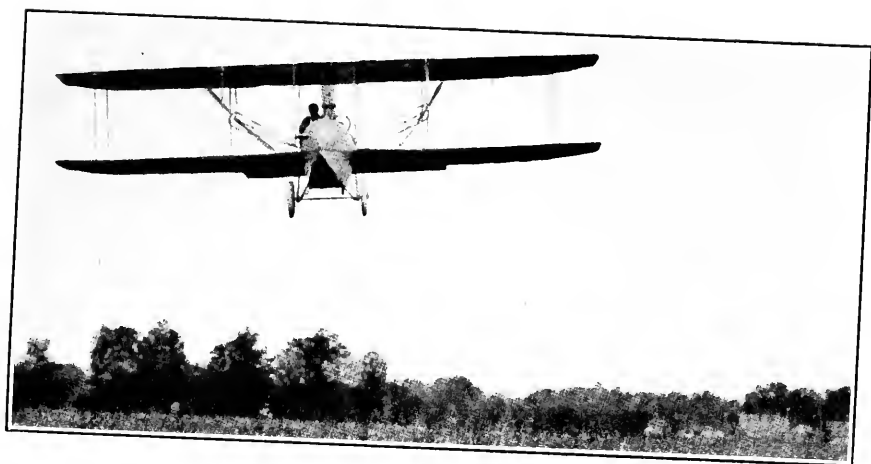
A few decades ago the world was astonished by the development of the railroad in North America, the ramification of lines uniting distant cities and facilitating travel,



Courtesy of Flying.

TESTING AEROPLANES AT THE FACTORY.

The tests given to aeroplanes before acceptance by the United States Army and Navy are very thorough. All the aeroplane factories in the United States also give their product most careful tests before delivery. The three pictures on this page show various tests given the apparatus by the manufacturer. Upperleft-hand picture shows a propeller under trial. Upper right-hand picture shows the testing of wheels and tires. Lower picture shows the wings of an aeroplane being tested with a weight of 13,800 pounds uniformly distributed.



Courtesy of Flying.

NEW TYPES OF AMERICAN AEROPLANES.

The Aviation Service of the United States Army has placed during the month of October orders for more than 200 aeroplanes of various types. The aeroplanes are divided into aero squadrons of 12 planes. One hundred will be delivered to the Regular Army training school at San Diego, Cal. Schools for instructing aviators have been established at Mineola, N. Y., and at Chicago. Officers are making a study of other available sites for the establishment of additional aviation schools.



Courtesy of Flying.

NIGHT PHOTOGRAPH OF ZEPPELIN AIRSHIP.

communication, and commerce. South America only needs fast transportation to develop its enormous natural resources. Without fast transportation they will remain undeveloped.

The aircraft, particularly the large and powerful aeroplanes that are being built and will be built in the coming few years, bring the opportunity for the South American States to utilize the greatest invention of modern times in doing for them what the railroads did for the United States. Very soon we shall see thousands of big aeroplanes operating over the most difficult and inaccessible regions of South America, uniting cities, fostering business, and bringing civilization to isolated communities.

An air line can be operated between two points 100 miles apart, on short notice, for what it would cost to build a single mile of railroad. To those in South America who have been forced to spend one week, and at times longer, to travel over a distance of 100 miles the very thought of covering the same distance in 100 minutes seems incredible. And yet it is at hand.

The aeroplanes needed for aerial travel and transportation can be constructed now; it is only a question of applying them—and the plans for the application may take several months. But when a start is made the development will be swift and the results will be such as we can hardly foresee. Difficult problems of transportation will be solved and the aircraft will be an important sociological factor.

PAN AMERICAN NOTES

MEETING OF THE GOVERNING BOARD.

On November 1 the Governing Board of the Pan American Union held its first autumn meeting. Those present included Hon. Robert Lansing, Secretary of State of the United States and chairman *ex officio*; Sr. Domicio da Gama, ambassador of Brazil; Sr. Dr. Rómulo S. Naón, ambassador of Argentina; Sr. Ignacio Calderón, minister of Bolivia; Sr. Dr. Carlos M. de Pena, minister of Uruguay; Sr. Joaquín Méndez, minister of Guatemala; Sr. Dr. Alberto Membreño, minister of Honduras; Sr. Dr. Gonzalo S. Córdova, minister of Ecuador; Mr. Solon Ménos, minister of Haiti; Sr. Dr. C. M. de Céspedes, minister of Cuba; Sr. Dr. Santos A. Dominici, minister of Venezuela; Sr. Dr. Rafael Zaldívar, minister of Salvador; Sr. M. de Freyre y Santander, *chargé d'affaires* of Peru; Sr. Dr. Joaquín Cuadra Zavala, *chargé d'affaires* of Nicaragua; Sr. Gustavo Munizaga Varela, *chargé d'affaires* of Chile; Sr. J. E. Lefevre, *chargé d'affaires* of Panama; Mr. John Barrett, Director General, and Mr. Francisco J. Yánes, Assistant Director. The ministers of Colombia, Paraguay, Dominican Republic, and Costa Rica were unavoidably absent.

The principal feature of the meeting was the submission by the Director General of his annual report on the receipts and expenditures of the past fiscal year, 1915-16, and his estimate of the receipts and expenditures for the fiscal year 1917-18. This report was accompanied by a brief review also of the activities of the office during the past year, which showed it to have been the record year of its existence. The report was read in Spanish by the Assistant

Director and then ordered printed and referred to the supervisory committee for its study and resubmission to the Governing Board for final action.

On motion of the ambassador of Argentina the chairman of the board was authorized to fill the vacancies existing on the neutrality committee. The minister of Uruguay read a paper on the work before this committee. Upon motion of the minister of Bolivia, following a presentation of the situation by the chairman of the board, in his capacity as Secretary of State of the United States, a resolution was unanimously passed instructing the Director General to extend an invitation to the American-Mexican Joint Commission at Atlantic City to hold its future sessions in the Pan American Building if it should see fit to adjourn to Washington from that city.

Before the meeting adjourned the minister of Ecuador, Sr. Dr. Don Gonzalo S. Córdova, who has been a member of the board for several years, made a brief appropriate address announcing that he was to return to his country and would soon be succeeded by another minister. He made felicitous reference to his experience as a member of the board and wished the Governing Board and the Pan American Union continued success in their labors. Upon motion of the minister of Bolivia, duly seconded and unanimously passed, it was spread upon the records that the Governing Board viewed with regret the departure of the minister of Ecuador and wished him well in his future responsibilities.

After adjournment a photograph was taken of the Governing Board seated around its regular meeting table, while another one was taken of all the members in front of the fountain in the patio. The large attendance at this first meeting of the official year and the interest manifested in the proceedings augurs well for the continued welfare and usefulness of the Pan American Union as an international organization.

COMMERCIAL ARBITRATION BETWEEN ARGENTINA AND THE UNITED STATES.

It will be remembered that one of the most important matters that received the attention of the conference of the International High Commission on Uniform Legislation, held in Buenos Aires last April, was the provision for "Arbitration of commercial disputes." The code of procedure adopted by the representatives of Argentina and the United States and subsequently ratified by the conference, was outlined in an address to the conference by Hon. John H. Fahey, which was reproduced in part in the June, 1916, number of the *BULLETIN*. The main provisions may be summed up as follows:

Permanent agreements may be entered into between business men of the two countries under which disputes shall be settled in accord-

ance with the plan devised by the Bolsa de Comercio of Buenos Aires, representing the business men of Argentina, and the Chamber of Commerce of the United States, in like manner representing those of its country, and a specific transaction closed by cable may be settled in the same manner in case of difficulty by the incorporation in the cable exchanges of a code word having reference to the agreements and providing for arbitration.

Under the terms of the code of procedure, the Bolsa de Comercio binds itself to maintain a committee of arbitration of five members resident in Argentina, three of whom are named by it and approved by the Chamber of Commerce of the United States, and two of whom are named by the Chamber of Commerce of the United States and approved by the Buenos Aires organization. The Chamber of Commerce of the United States in turn maintains a similar committee in the United States selected in like fashion. These committees have charge of all arbitrations conducted in either country. Furthermore, in Argentina there is established a permanent list of 30 representative and responsible gentlemen representing different lines of business who may act as arbitrators. Fifteen of these are selected by the Bolsa de Comercio and approved by the Chamber of Commerce of the United States. A like number is nominated by the Chamber of Commerce and approved by the Bolsa de Comercio. In the United States a similar arbitration board is chosen under exactly the same conditions. In the event of dispute between business men of the two countries, if they do not agree between themselves on three arbitrators to settle the question arising, then the committee on arbitration maintained in the country where the arbitration is to take place selects three arbitrators from the regular list of 30 resident in that country. The arbitration committee being appointed, the trial of the case proceeds under a carefully drawn set of rules which provide for practically all contingencies that could be foreseen. The permanent list of 30 representative men in each of the countries has been named and approved by the respective commercial organizations of Argentina and the United States. In this connection the BULLETIN is pleased to state that the Director General of the Pan American Union was honored by being named by the Bolsa de Comercio of Buenos Aires as one of its 15 representatives in the United States, the nomination having been approved by the Chamber of Commerce of the United States, and that he has accepted the appointment.

THE ARGENTINE AMBASSADOR ADDRESSES BOSTON AUDIENCE.

The custom of observing the anniversary of the discovery of America by Columbus is being more generally adopted throughout the Americas each year. The occasion is celebrated in one form or another in practically all of the 21 countries of the Western Hemi-

sphere, and in the United States October 12, known as Columbus Day, has been declared a legal holiday in 33 of the 48 States. Patriotic addresses, music, and other appropriate exercises are the features of special celebrations in many of the cities and towns of the country. The city of Boston has instituted the custom of inviting some distinguished Pan American each year to be the principal speaker on the occasion of its celebration. This year Dr. Rómulo S. Naón, Argentine ambassador to the United States, was the specially invited guest and orator. The day was given over to various patriotic exercises, such as flag raising, military processions, commemoration meeting at Faneuil Hall, athletic games and contests on Boston Common, band concert at the Common, and concluded with the Pan American meeting at Symphony Hall. One of the stirring features of this meeting was the "Procession of Flags," when the flags of all of the 21 Pan American Republics were borne into the hall, each to the music of its own country, and placed at the front of the stage after the speakers of the occasion had been seated. The flag bearers had been chosen from students of Harvard University and Massachusetts Institute of Technology who are natives of the countries whose flag they carried. Ambassador Naón, who had been previously entertained at an elaborate dinner given in his honor by Mayor John J. Curley, of Boston, was the principal speaker, and delighted the vast audience with his scholarly address, the keynote of which was a strong plea for such a fraternal solidarity among the Republics of the American continents as would preclude the possibility of any such fratricidal struggle as had overwhelmed Europe.

ANOTHER STEP IN THE RIGHT DIRECTION.

A recent communication to the Pan American Union from the foreign department of the Mechanics and Metals National Bank of New York states that, encouraged by the success of its South American department, the bank has recently started a trade department the special function of which is to encourage exports from South and Central American countries to the United States. The plan, it seems, is to authorize reputable and responsible merchants of Latin American countries to consign to the bank goods for sale in New York or other cities of the United States, against which they are allowed to draw on the bank up to a certain percentage of the market value of the goods at the time of shipment. In this manner the Latin American exporter realizes at once a definite amount on his shipment, and incidentally some of the difficulties of starting an importing branch by firms in the United States hitherto engaged only in the domestic trade are obviated. This is undoubtedly another step in the right direction. It is just as necessary to increase the facilities

for importing commodities from Latin American countries as it is to aid in exporting goods to them. The greater the imports of the United States from the other Republics the greater will be the sales to them. Also the more raw materials and primary products the country imports for the purpose of manufacturing highly finished products therefrom the greater will be its eventual wealth and prosperity.

EXCHANGE OF PROFESSORS BETWEEN CHILE AND THE UNITED STATES.

The BULLETIN is in receipt of the gratifying news that an exchange of professors between the University of Washington, at Seattle, State of Washington, and the Institute Comercial of Valparaiso, Chile, has been arranged. Prof. Charles Monro Strong, of the Spanish department of the University of Washington, is to exchange places with Prof. Benjamin Oyarzun Lorca, head of the department of English at the Institute Comercial of Valparaiso, a branch of the National University of Chile, the exchange to be for the period of one year from February, 1917, to February, 1918. Prof. Strong will teach English at Valparaiso and Prof. Lorca will conduct classes in Spanish at Seattle. Aside from the advantages that will accrue to the students and the two professors the exchange is a practical method of advancing the cordial relations between the two countries, each professor being enabled to acquaint himself with the people of the country in which he sojourns and thereby becoming an active instrument for disseminating better knowledge and promoting a friendly interest among his home people in regard to the country he has thus temporarily served. It is to be hoped that the example set by these two universities will lead to similar action on the part of many other progressive educational institutions of the American Republics.

FAMOUS SURGEONS OF THE UNITED STATES TO VISIT LATIN AMERICA.

At the recent Congress of the American College of Surgeons held in Philadelphia, a commission consisting of five of the most eminent surgeons of the country was named, at the request of the United States Government, to visit the countries of South and Central America next summer in order to promote closer relations between the various medical societies and organizations throughout the Americas. The commission will visit all the principal cities of Latin America where hospital facilities are to be found, and clinics similar to those held in the United States are to be instituted. The Pan American "get-together" spirit is thus growing stronger from day to day. No longer confined to the commercial sphere, it is taking hold of the leaders in the social and professional life of the Western Hemisphere. In every form of human activity the close relationship of the people of the

American Republics is being realized, and the necessity for mutual cooperation is being recognized. A great family of friendly nations, held together by mutual interests and similar aims and ideals, will eventually insure the peace and prosperity of the New World—whatever may be the outcome of the deplorable conditions that now obtain in the Old World.

WOMEN'S CLUBS INTERESTED IN LATIN AMERICA.

It is most gratifying to the Pan American Union to be informed from time to time of the large number of women's clubs throughout the United States which are studying the countries of Central and South America. For years this office has done everything possible to awaken the interest of the women of the Americas in Pan Americanism, knowing that this is one of the most effective ways of promoting the cause. There has just come to the desk of the Director General a copy of the Yearbook of the Daughters of the American Revolution, Elder William Brewster Chapter, National No. 519, Freeport, Ill., whose program of meetings for 1916-17 includes papers upon the following topics: "Panama, the Country of the 'Great Ditch'"; "Countries of South America"; "Races and Nations of South America"; "Commerce and Industries of South America"; "Pan Americanism"; "Governments of South America"; and "South America and International Relations." In making mention of this program the Director General extends his congratulations to the officers of this chapter of the Daughters of the American Revolution and expresses the hope that their example will be followed by many other clubs in the State of Illinois.

SPECIAL BRAZILIAN NUMBER OF THE SOUTH AMERICAN.

The BULLETIN is in receipt of the announcement that The South American (New York), published by Mr. Wing B. Allen, will issue a special Brazilian number about December 1. According to the announcement, the purpose of the number is to portray actual conditions in the largest of the South American Republics, and thus awaken the minds of the investing public in the United States to the wonderful trade and investment possibilities offered by Brazil. Among the distinguished names appearing in the list of contributors to this special number may be mentioned the following: His excellency Domicio da Gama, ambassador extraordinary and plenipotentiary of Brazil to the United States; Mr. James A. Farrell, president of the United States Steel Corporation; Hon. Robert Lansing, Secretary of State of the United States; Hon. John Barrett, Director General of the Pan American Union; Hon. H. C. de Martins Pinheiro, consul general of Brazil; Dr. Edward Ewing Pratt, Chief of

the Bureau of Foreign and Domestic Commerce of the United States; Dr. Alvaro de Menezes, publicist, of Brazil; Prof. Lincoln Hutchinson, of the University of California; and Dr. J. C. Branner, president of Leland Stanford University. Several other distinguished writers have also been asked to participate, and that this issue of *The South American* will be of exceptional interest and value is a foregone conclusion. Not less than 50,000 copies are to be distributed.

BOOK NOTES

"Exporting to Latin America," a new book for merchants, manufacturers, and exporters, prepared by Ernst B. Filsinger, president Filsinger-Boette Shoe Co., consul of Costa Rica and Ecuador in St. Louis, formerly president and commissioner to Latin America of the Latin American Foreign Trade Association, with a foreword by Dr. Leo S. Rowe, professor of economics, University of Pennsylvania, has just come to the attention of the Pan American Union. It is published by D. Appleton & Co., of New York and London, and should prove a most useful book for all those who are connected with Pan American commerce. Mr. Filsinger is well known to the Director General and members of the staff of the Pan American Union as a thoroughgoing Pan American and one who has always been expertly interested in building up trade relations between the United States and its sister Republics. Possibly the best way to make the book known in these columns is to quote the foreword of Dr. Rowe, who is a noted Pan American, and then follow it with the preface written by the author.

Dr. Rowe says:

"It is a curious fact that American merchants and manufacturers have been less eager than their European rivals to accept advice and suggestion with reference to the development of foreign trade. In fact, for many years such advice was resented as a reflection on the native capacity of the American-business man. It is only within recent years that we find developing a real and sincere desire to ascertain the business principles which will enable the American exporter to meet the competition of his European rival.

"The clear and systematic presentation of the conditions necessary to the development of foreign trade made by Mr. Filsinger means a real national service, a service which will be appreciated by our merchants and manufacturers. The author's conclusions are based on personal study and observation; and although he does not claim to say the last word on the subject, his advice and suggestions will be of great value. His presentation shows that successful competition for Latin-American trade is not merely a question of prices, but involves a great number of other considerations—question of credit, adaptation to local taste, willingness to conform to local commercial methods. With information concerning the requisites of Latin-American trade, thus made accessible in clear and compact form, American merchants and manufacturers can no longer complain if they fail because of ignorance of the conditions upon which the expansion of that trade depends.

"UNIVERSITY OF PENNSYLVANIA, June 20, 1916."

And the author's preface is as follows:

"For a long time the author has felt the need of a book which would deal adequately with the subject of exporting to Latin America and provide for the business

man a complete and concise analysis of Latin-American trade and a guide to the best means of obtaining it.

"The literature attempting to deal with this question has been of a haphazard character, full of generalities and lacking in the succinct treatment so necessary to a thorough understanding of Latin American trade problems.

"The contents of this book will be easily grasped, even by the hastiest reader, because of the titles to paragraphs based on the principle of the newspaper headline.

"This volume is written from the business man's standpoint and everything that smacked of the purely academic has been avoided, in order that the book may be thoroughly practical. It should prove of particular value to commercial travelers, students of export problems, Government officials, officers of export associations and many other groups interested in export trade besides merchants and manufacturers.

"In the appendix are included lists of books useful in the study of Latin American trade from the general and technical standpoints. The lists of technical dictionaries, aids to correspondence, grammars, readers, etc., should be of interest to the student of Spanish and Portuguese. Statistics and other data have been presented in succinct and logical fashion to aid the business man in studying Latin American trade possibilities.

"The European war forced a complete readjustment of the commercial relations of the Latin American Republics and as a direct consequence vast opportunities were opened to American business men. The extent to which these are taken advantage of will determine the future of North American commerce with Latin America. That this volume will serve to further American interest in the southern trade fields is the hope of the author.

"The author desires to express his thanks to many trade organizations, magazines, and individuals for the information furnished during the preparation of this volume. He is especially grateful to the staffs of the Pan American Union and the Bureau of Foreign and Domestic Commerce for invaluable aid. Their publications have been freely consulted and many of the books and pamphlets listed in the appendix have likewise been drawn upon for facts. The author regrets that because of the wide range of the book an individual acknowledgment in every case is impossible.

"ERNST B. FELSINGER."

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO NOVEMBER 1, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
Annual report on commerce and industries for 1915.....	Aug. 11	William Dawson, jr., consul, Rosario.
Protective trading conditions adopted by the United States Exporters Association in Buenos Aires.	Aug. 28	W. Henry Robertson, consul general, Buenos Aires.
Probable decree exempting foreign sugars from import duty.....	Sept. 5	Do.
Nationality and patriotism in trade competition.....	Sept. 7	Do.
Argentine Confederation of Commerce, Industry, and Production.	Sept. 13	Do.
Projected Argentine Mercantile Marine.....	Sept. 18	Do.
Railway employees' pension law.....	Sept. 19	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to November 1, 1916—Continued.

Title.	Date.	Author.
BRAZIL.		
Due-postage letters received at the consulate general.....	Aug. 21	A. J. M. Gottschalk, consul general, Rio de Janeiro.
Coal situation in Brazil.....	Aug. 22	Do.
Application of the new civil code of Brazil to American business.....	do.	Do.
Delay of American manufacturers in filling orders with Brazil.....	Sept. 5	Do.
Cattle industry.....	Sept. 6	Do.
Automobile licenses in Rio de Janeiro.....	Sept. 19	Do.
Meat exports of Brazil.....	Sept. 22	Do.
The coffee market.....	Sept. 25	Do.
CHILE.		
Annual report on commerce and industries for 1915.....	Aug. 7	David J. D. Myers, consul, Punta Arenas.
Shipments of last wool clip to the United States.....	Aug. 31	Do.
COLOMBIA.		
Regulations regarding traveling men's samples.....	Oct. 6	Claude E. Guyant, vice consul, Barranquilla.
DOMINICAN REPUBLIC.		
Coconuts, copra, and oil.....	Sept. 11	Edward L. Zowe, vice consul, Puerto Plata.
ECUADOR.		
Ecuador market for August, 1916.....	Sept. 8	James H. Roth, vice consul, Guayaquil.
Decree regulating the issuance of postal money orders between Ecuador and Great Britain.....	Sept. 13	Do.
Foreign trade of Ecuador, 1915.....	Sept. 22	Do.
Ecuadorian eight-hour law.....	Sept. 25	Do.
Exports to United States for September quarter.....	Oct. 2	Do.
HONDURAS.		
Navigation and timber project.....	Sept. 2	E. M. Lawton, consul, Tegucigalpa.
Annual report on commerce and industries for 1915.....	Sept. 4	Do.
Shipping facilities between New York and south coast of Honduras.....	Undated.	Do.
Moving-picture business in north Honduras.....	Sept. 28	Francis J. Dyer, consul, Ceiba.
NICARAGUA.		
Foreign commerce first six months, 1916.....	Sept. 25	John A. Gamon, consul, Corrientes.
PANAMA.		
Pacific Mail steamships running to Cristobal.....	Sept. 16	Julius D. Dreher, consul, Colon.
Exports for 1914 and 1915.....	Sept. 20	A. G. Snyder, consul general, Panama.
Details of imports first six months of 1914.....	Sept. 22	Do.
Panama Canal traffic in August.....	Sept. 23	Julius D. Dreher, consul, Colon.
Weather Bureau service in the Caribbean.....	Oct. 6	Do.
Panama Canal traffic for fiscal year, 1915-16.....	Oct. 7	Do.
PERU.		
Production and exportation of sugar, 1915.....	Sept. 7	William W. Handley, consul general, Callao-Lima.
Market desired for Peruvian flaxseed.....	Sept. 12	Do.
URUGUAY.		
Montevideo accepts American freight cars.....	Aug. 28	Herman L. Spahr, consul, Montevideo.
New duty on silks.....	Aug. 31	Do.
VENEZUELA.		
New market for electrical appliances.....	Sept. 8	G. K. Donald, consul, Maracaibo.
New sugar central in the Maracaibo district.....	Sept. 12	Do.
Annual report on commerce and industries for 1915.....	Sept. 15	Do.



Photo by Harris & Ewing.

PORTRAIT OF GEN. JOSE DE SAN MARTIN.

A large oil portrait of Gen. San Martín, the photograph of which is reproduced above, was recently presented to the Government of the United States by the Army of Argentina as a testimonial of its cordial friendship for the Army of the United States. The presentation was made by Col. Eduardo Raybaud, military attaché of the Argentine Embassy at Washington, in behalf of the army of his country. Its Secretary of War Newton D. Baker on November 9, 1906, and the portrait is to be placed in the library of the United States Military Academy at West Point. Gen. San Martín, the national hero of Argentina and one of the greatest of the South American patriots, fought for the independence of not only his own country, but for that of Chile and Peru. In going to the aid of Chile he accomplished the tremendous feat of crossing the Andes with his heroic little army through a pass over the Alps, thereby turning the tide of battle in favor of the Chileans and securing their independence. Afterwards he went to Peru with some of his army and cooperated with Gen. Simón Bolívar in securing the independence of that country. He was born at Yapeyu, Argentina, February 25, 1778, and died at Boulogne-sur-mer, August 17, 1850. His remains were subsequently conveyed to his native land and now rest in a magnificent mausoleum in the Cathedral of Buenos Aires. The portrait is the work of the famous Argentine painter Bouchet. Col. Raybaud is preparing a resume of the life of San Martín to present to the War Department at Washington.



Photo by Harry A. Lowe

THE SUPREME COURT OF THE UNITED STATES

The members of the highest judicial tribunal of the United States are appointed by the President of the United States, with the approval of the United States Senate, for life or until retired on account of age or other physical cause. Retired members who have rendered 10 years active service receive full pay. The salary of the Chief Justice is \$15,000 a year, while the Associate Justices receive \$11,500. The above photograph shows the members of the court now serving. They are from left to right, top row: Louis D. Brandeis, Mahlon Pitney, James C. McReynolds, and John I. Clarke. Left to right, bottom row: William E. Taft, Chief Justice, E. D. White, Oliver Wendell Holmes, and Willis Van Devanter.



Courtesy of Mundo Argentino.

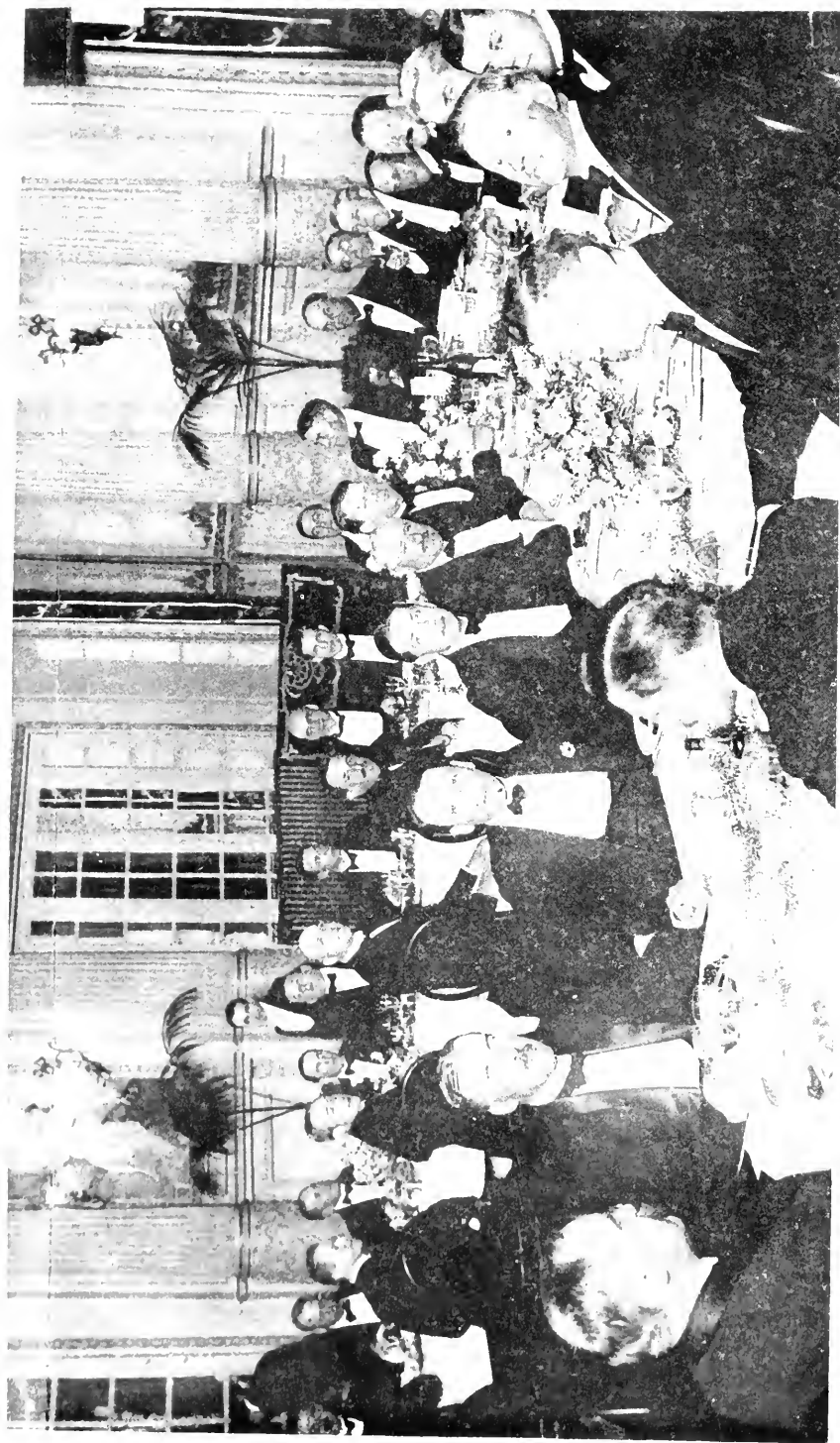
A GLIMPSE OF ARGENTINA'S ARBOR DAY CEREMONIES.

Tree planting in Argentina is receiving great attention from officials of the Government and from private citizen. All over the country the children are enthusiastic on the subject of starting a tree on Arbor Day, the 3d of September. The picture shows the President of the Republic surrounded by thousands of children at Buenos Aires, and other phases of the eventful day in the capital city.



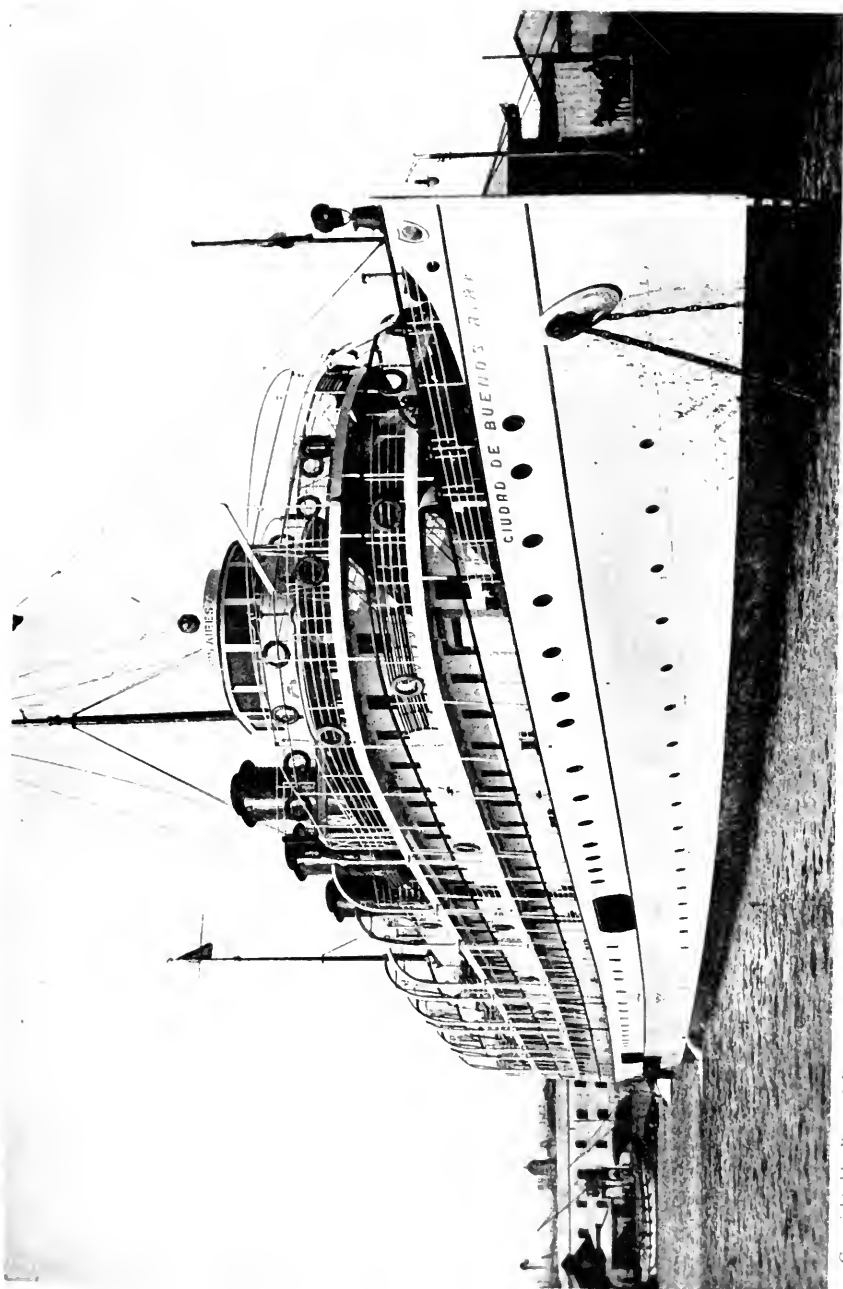
BANQUET GIVEN BY DR. M. DE BARROS MOREIRA TO THE UNITED STATES FINANCIAL AND COMMERCIAL COMMITTEE.

The Financial and Commercial Committee, appointed by Secretary McAdoo to return the visit of the Brazilian delegates to the Pan American Financial Conference held in Washington during May, 1915, arrived at Rio de Janeiro August 16, 1916. Reservations had been made for the party at the Hotel International, and one of the handsome salons of the Hotel was placed at their disposal for meetings, conferences, and as general headquarters. The visitors received the most cordial welcome and during their stay of 27 days were delighted with kind hospitalities. Among the notable courtesies extended were banquets in their honor by Dr. Pandia Calogeras, Brazilian Minister of Finance; by Dr. Manoel de Barros Moreira, chairman of the reception committee of the Rio de Janeiro Commercial Association; by Sr. and Sra. Louis R. Gray; by the Hon. Edwin C. Mendenhall, American Ambassador to Brazil; by Mr. Michael D. Strong, vice president of the picturesque environs of the Brazilian capital, etc. The following constituted the committee: Charles Lyon Chandler, secretary; William C. Downing, chairman of the committee; Charles E. Findlay, of New York; Louis R. Gray, head of the American branch of Arthur & Co.; Frederick Lange, of the Mechanics & Metals National Bank of New York; Dr. Edward F. Storer, of Storer, Barron & Co., of Chicago; Thomas W. Stroeter, vice president of the Latin American Corporation of New York; Alfred C. Weigand, of Chattanooga, Tenn.



BANQUET IN HONOR OF COL. BRAINARD AT THE PLAZA HOTEL, BUENOS AIRES.

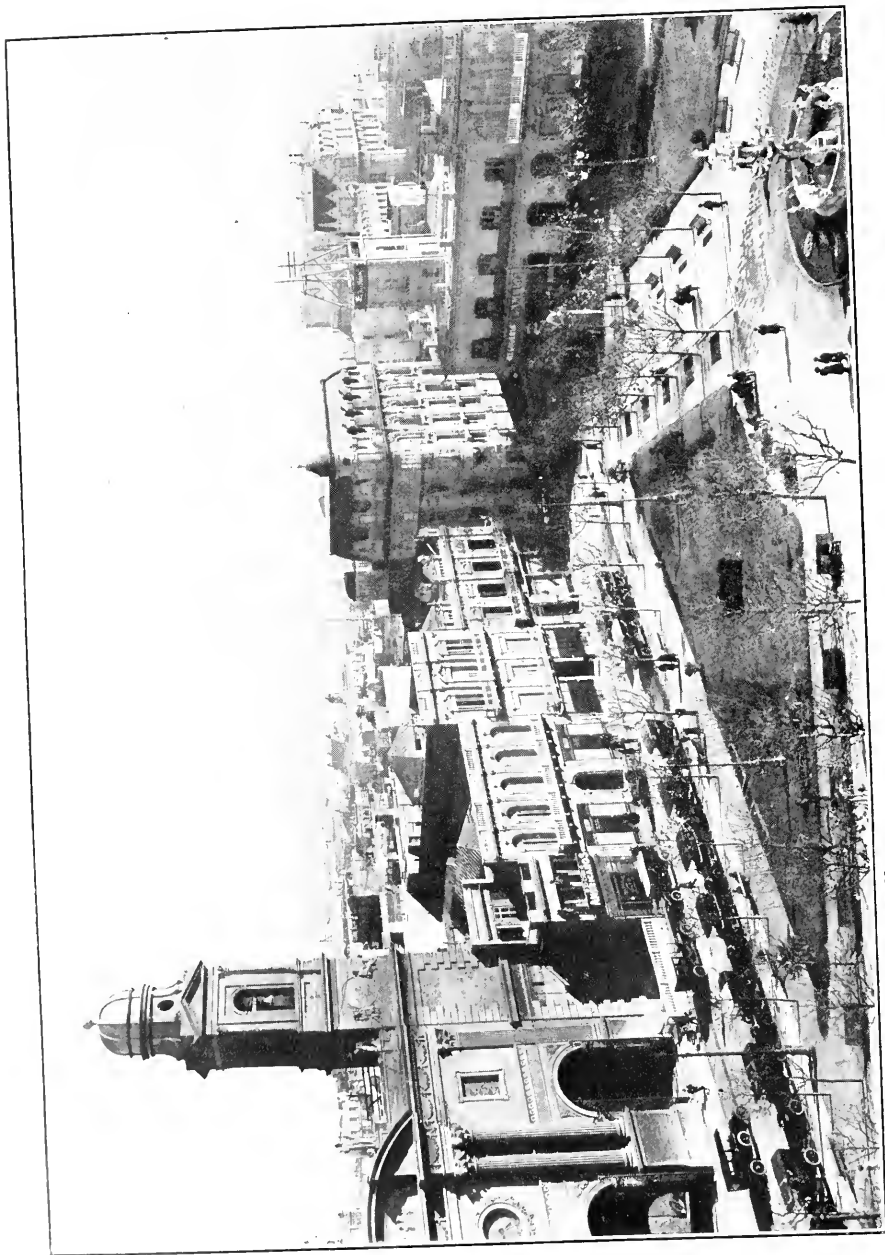
Col. David L. Brainard, military attaché of the American Embassy at Buenos Aires, celebrated the fortieth anniversary of his enlistment in the United States Army on September 18, 1906. His friends in Buenos Aires tendered him a complimentary banquet at the Plaza Hotel in honor of the occasion. Col. Brainard's career in serving his country for 40 consecutive years has been a stirring one, and one of the pleasant features of the banquet was his modest account of some of his most thrilling experiences. Upon the occasion of his appointment to his present post the *BULLETIN* for August, 1914, published a brief biographical sketch in which some of the Colonel's unusual achievements were outlined. His popularity in Buenos Aires among the Argentines as well as among his fellow North Americans attests his efficiency in the important post he occupies.



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ONE OF THE NEW STEAMERS ON THE RIO DE LA PLATA.

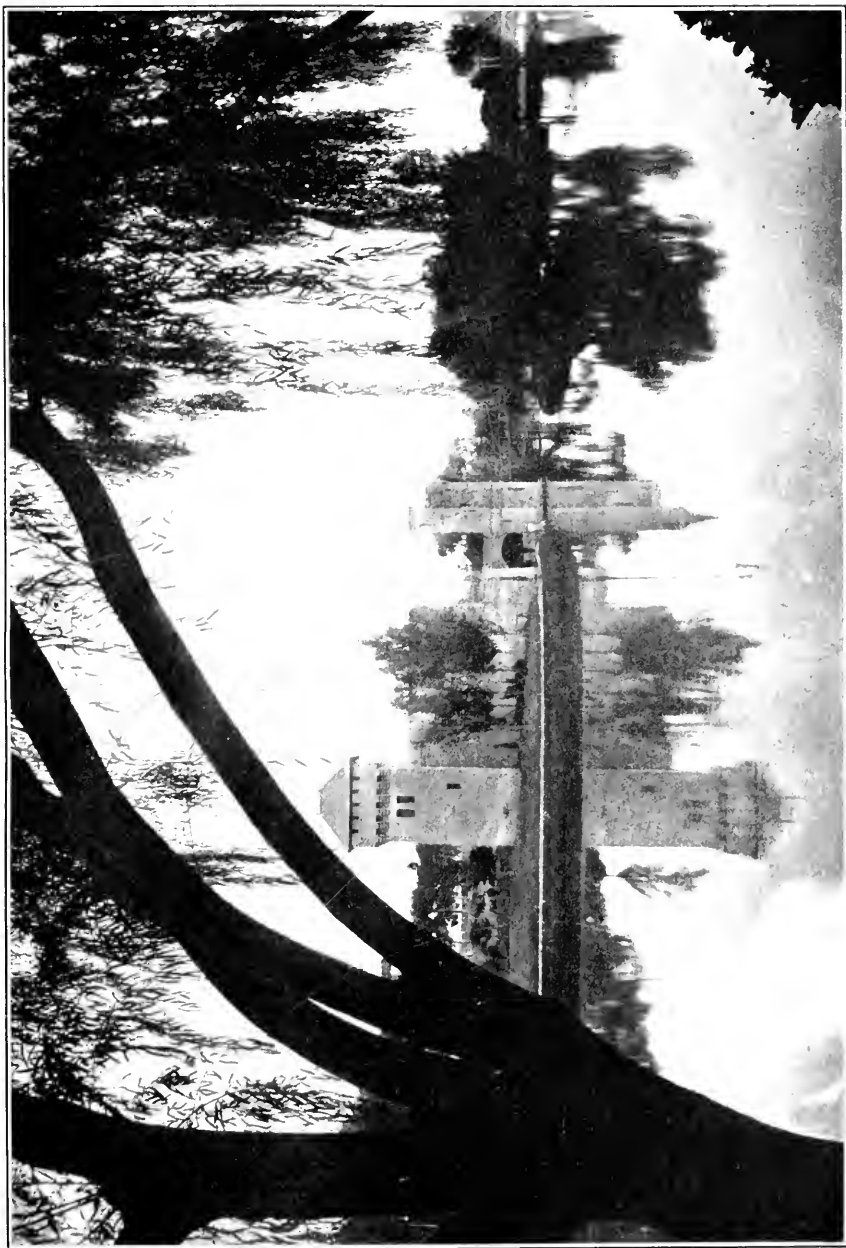
Several new steamships have recently been added to the local lines that ply between Buenos Aires and Montevideo. These vessels are provided with every modern appliance that can minister to the comfort and pleasure of their passengers. A steamer leaves Buenos Aires about 6 p. m. and arrives at Montevideo in time for breakfast the next morning, while the return journey is made in similar fashion, the traveler leaving Montevideo in the evening and reaching Buenos Aires the following morning. The distance between the two capitals is about 120 miles.



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THE PLAZA CONSTITUCION, MONTEVIDEO.

The Plaza Constitución is one of the smaller parks in the business section of Montevideo. In the background may be seen a part of the harbor, while in the distance beyond rises the eminence called the "cerro," the hill which gave the city its name. "Montem video," Juan de Solís is said to have exclaimed as he sailed the first European vessel into the broad estuary now known as the Río de la Plata, and caught sight of the little mountain. Hence the joining of the two words by the elision of the "m" to give the Uruguayan capital its euphonious appellation.



URBANO PARK, MONTEVIDEO.

Montevideo is noted for its seaside resorts and splendid parks. One of the most popular of these delightful health and pleasure resorts is known as the Playa Ramirez, forming a southern suburb, and Urbano Park is the background for this celebrated watering place. One of the features of the park is a large artificial lake, containing over 30,000 cubic meters of water, in which are a number of picturesque islands. Motor launches and rowboats add to the attractive features of the park. The castle on the shore of the lake shown in the background of the picture contains the offices of the management of the park.

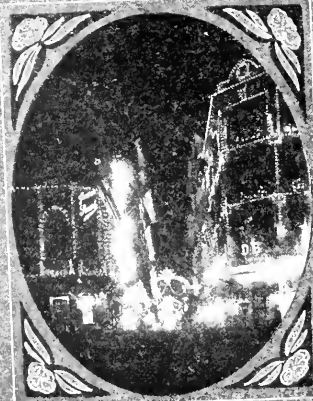
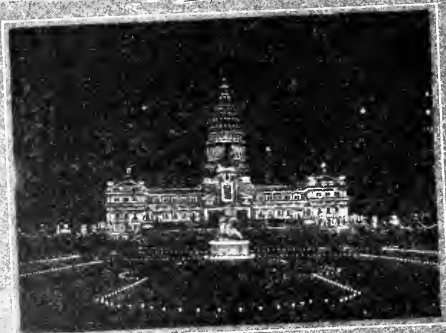
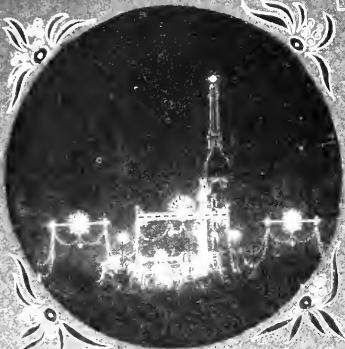


Photo by Terra & Co. Buenos Aires.

NIGHT SCENES IN BUENOS AIRES.

The celebration of the centenary of Argentine independence last July was the occasion of all manner of festivity throughout the country. In Buenos Aires especially was the celebration enthusiastic, and the illumination of the city at night was exceptionally fine and impressive. Some of the largest buildings were completely outlined in electric lights, while the streets and parks were all brightly illuminated.



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AS THE DAY WANES IN SANTIAGO.

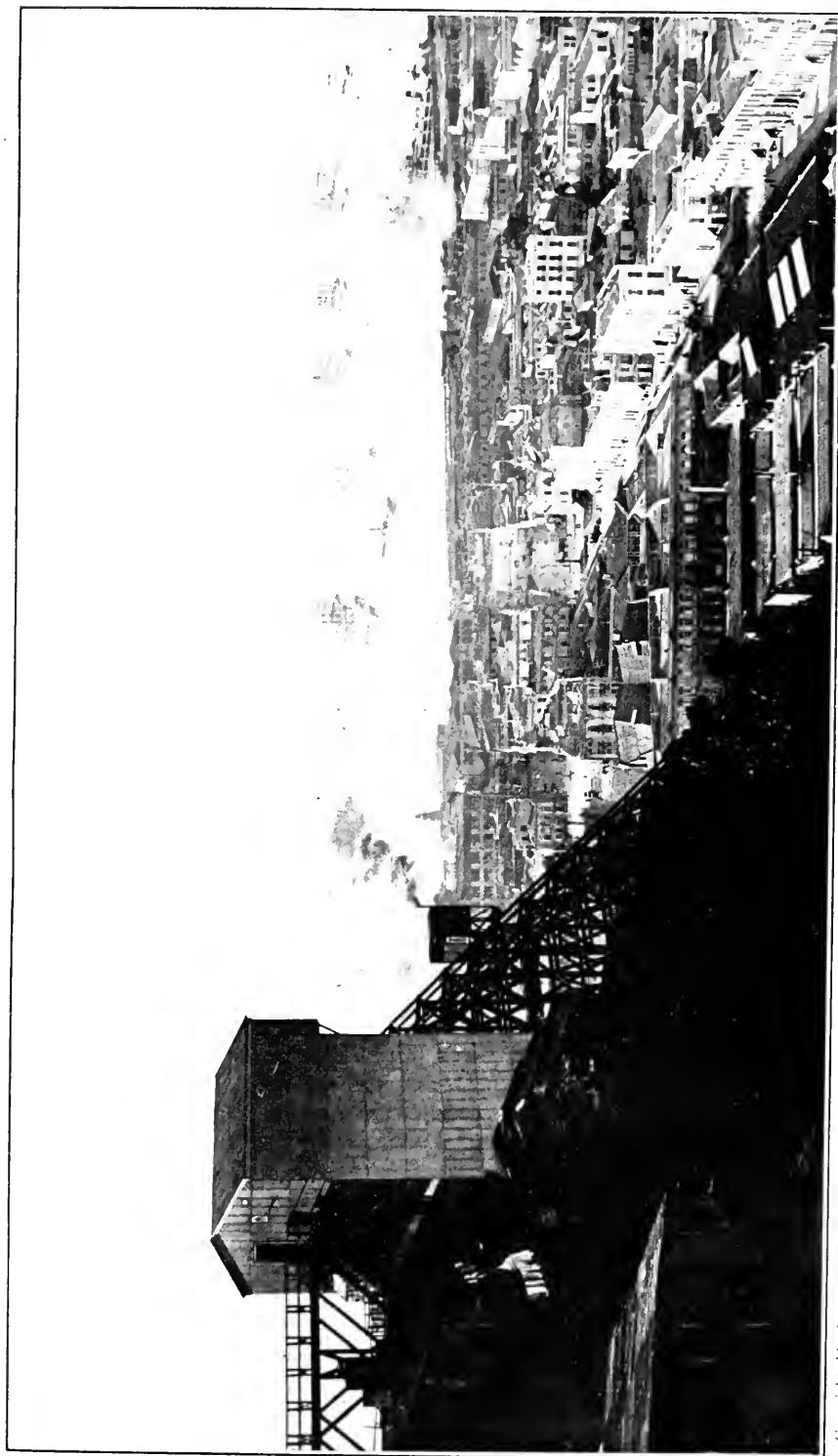
The above is a reproduction of an unusual photograph of Santiago taken from the top of the Cerro de Santa Lucia, in the heart of the city, late in the afternoon, when the mist begins to form in the valley. Rising high above the mist left may be seen the snow-capped Andes still shining in the declining rays of the sun, seemingly in the very outskirts of the city and yet many miles away.



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A VIEW OF THE ANDES AT SUNSET.

From the top of Santa Lucia, the hill which rises some 400 feet above the surrounding city of Santiago, Chile, and whose artistic embellishments have made it the modern rival of the famed "Hanging Gardens of Babylon," may be seen the most gorgeous of pictures that nature ever painted with sunset lines. The bright green of the valley, dotted here and there with farms and stately villas in shimmering white, extends to the foothills of the mighty Andean Range, whose peaks are covered with eternal snows, while over all the gathering clouds form a riot of rainbow colors that lend the scene the beauty of a fairy land.



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AN "ASCENSOR" AT VALPARAISO, CHILE.

The city of Valparaíso, Chile, is built partly on a narrow strip of land along the seashore and partly on an encircling border of hills. The business section is to be found on the lower level, while the churches, public buildings, and many of the finest private residences are on the hilltops. Elevators, known as "ascensors," carry the people from one section to the other for a small fare. Some of the elevators are entirely vertical while others are more on the order of inclined railways like that shown in the left foreground of the picture.

ARGENTINE REPUBLIC

President Hipolito Irigoyen and Vice President Pelagio Luna were formally inaugurated in Buenos Aires on October 12, 1916. According to the Argentine constitution, they will hold their offices during a term of six years.—The CABINET of the President is as follows: Ramón Gómez, minister of the interior; Carlos A. Becú, minister of foreign affairs; Domingo Salaberry, minister of finance; José Salinas, minister of justice and public instruction; Honorio Pueyrredón, minister of agriculture; Pablo Torello, minister of public works; Elpidio González, minister of war; and Federico Álvarez de Toledo, minister of marine.—With an increase of 977,860 gold pesos during the month of August, 1916, the total GOLD RESERVE held on September 1, 1916, in the conversion office and Argentine legations in foreign countries aggregated 316,827,643 pesos. Against this reserve the paper, nickel, and copper money issued totaled 1,013,081,058 pesos paper. The conversion office was established on October 31, 1899, and has recently been moved to the building formerly occupied by the Supreme Court.—BUSINESS FAILURES during the month of August, 1916, showed a decrease in respect to total liabilities of over 40 per cent as compared with the corresponding month in 1915.—According to information furnished by the minister of finance, the executive power will shortly authorize Congress to pass a law providing for the issuance of uniform licenses throughout the Republic to COMMERCIAL TRAVELERS. The proceeds from the licenses will be distributed among the Provinces and Territories of the Republic in proportion to the population as shown by the last census. The law will practically embody all the recommendations made last April at the Pan American Financial Conference, held in Buenos Aires. Drummers' samples will be admitted free of duty, provided they are not to be sold or held in the country longer than six months.—Due to the shortage in the Argentine SUGAR PRODUCTION, the executive decree of May 31, 1916, prohibiting the exportation of sugar and authorizing the importation, free of duty, of certain quantities of raw or refined sugar will be prorogued. As a result of this season's operations, the Tucuman Sugar Co. in its recent report estimates an output of 146,000 tons of merchantable sugar for 1915, as compared with 335,400 tons produced in 1914. According to the 1915 census of the sugar industry in Argentina, as compared with the previous census taken in 1895, the capital invested increased from 52,417,984 pesos national currency in 1895 to 164,386,103 pesos in 1915; the personnel employed increased from 28,308 in 1895 to 37,008 in 1915; the motor power employed increased from 11,294 horsepower in 1895 to 48,220 horsepower in 1915.—Ac-

cording to the report of the Argentine POSTAL SAVINGS BANK, which was established on April 5, 1915, during the period of its operation up to September 1, 1916, the total number of depositors aggregated 128,970, and the total deposits 4,573,218 pesos national currency. During August there were 48,798 deposits, an average for the month of 1,600 per day. The postal savings bank has invested in Government bonds alone the sum of 4,282,200 pesos. The total number of agencies in operation throughout the Republic on September 1 was 885, of which 63 were in the Federal capital, 252 in the Province of Buenos Aires, 132 in Santa Fe, 98 in Córdoba, 48 in Entre Rios, 38 in Corrientes, 31 in Mendoza, 23 in Tucuman, 21 in San Luis, 17 in Salta, 17 in Catamarca, 17 in La Rioja, 15 in Santiago del Estero, 15 in San Juan, 13 in Jujuy, and 85 in the National Territories.—According to official statistics, from January 1 to September 5, 1916, the exportation of CEREALS, in metric tons, was as follows: Wheat, 1,650,191; maize, 1,482,187; flax, 490,434; oats, 600,802. Early in September, four steamers, loaded with 10,000 metric tons of flax, cleared from Buenos Aires for the United States. As compared with the first seven months of 1915, in the corresponding period for 1916, exports of frozen beef increased 21.9 per cent; frozen mutton, 62.1 per cent; goat hides, 68.8 per cent; salted ox hides, 15.2 per cent; butter, 48.8 per cent; wheat flour, 11.2 per cent; quebracho logs, 22.5 per cent; and baled hay, 95 per cent.—The department of public works has approved plans for extending the WATER SUPPLY of the city of Paraná, Entre Rios, at an estimated cost of 420,315 pesos paper.—According to the bureau of statistics, the Province of Buenos Aires had a POPULATION of 2,128,799 on November 30, 1915.—On September 3, 1916, ARBOR DAY was celebrated in more than 800 towns and cities of the Republic with much enthusiasm. The Argentine Forestry Society had a special medal struck in remembrance of the day.—According to La Nacion, of Buenos Aires, the MAP OF THE REPUBLIC ordered abroad and not printed till recently, has been forwarded and will soon be in use in the public offices and schools of the country.—The report of the Administrator General of the Argentine State Railways, as submitted to the Minister of Public Works, shows that during the first six months of 1916 the receipts aggregated 8,167,787 pesos paper and the expenses 7,621,235 pesos, giving a profit of 546,552 pesos, against a loss in same period of 1915 of 1,468,889. The improvement is due to a gain of 1,563,855 pesos in freight handled, or 23.68 per cent increase, and decrease in expenses of 451,585 pesos, or 5.59 per cent, the two items favoring the 1916 half-year period to the amount of 2,015,440 pesos as compared with same period in 1915.—An ORNITHOLOGICAL SOCIETY has been established in the city of La Plata for the purpose of studying and protecting Argentine bird life.—The

Argentine Central Railway inaugurated on August 24 **ELECTRIC SERVICE** on its lines between Buenos Aires and El Tigre.—The **INTERNATIONAL STOCK EXPOSITION**, held in Buenos Aires August 15–22, was one of the most interesting and successful cattle shows in the history of the country. More countries competed and more prizes were awarded than at any previous exposition. The sale of the prize cattle realized fully as good prices as were recorded the previous year when some record sales were made. A special feature of the exposition was the fine exhibit made by the Agricultural Museum of Argentina's agricultural, mineral, and industrial products.—The **ARGENTINE ELECTRIC LAMP COMPANY**, recently organized in the Republic, expects to put its lamps of Argentine manufacture on the market at an early date.—Foreign **STEAMERS AND SAILING VESSELS** entering and clearing from the port of Buenos Aires during the first 8 months of 1916 showed a decrease in number of 133, but an increase in tonnage of 72,303 tons, as compared with the corresponding period for 1915.—The Argentina Stock Breeders Association invited the following prominent American breeders to act as judges in their annual cattle show held a few months ago in Buenos Aires: Messrs. C. F. Curtis, F. W. Van Natta, and Roberts Miller. Two recognized Argentine experts, Carlos M. Duggan and Pedro T. Pages, have now been invited to act as judges at the coming International Stock Show to be held in Chicago. They arrived in New York November 11 on the SS. Vauban.



The municipal authorities of La Paz have granted to Señor Luis Cornejo license to operate a **PUBLIC AUTOMOBILE SERVICE** in La Paz and vicinity. Only a few machines will be introduced immediately, but as the business develops other automobiles will be imported. Those named in the license are manufactured in the United States.—El Diario, of La Paz, under date of September 14 publishes a comparative statement of the **COMMERCE OF BOLIVIA** for the last five years, which shows a healthy growth. The same paper also gives a résumé of the foreign debts of the Latin American countries, reproduced from a French journal.—The newspapers report progress on the new enterprises undertaken by the Bolivia-Brazil Rubber & Timber Corporation. The largest area of one of the units of the company lies on both sides and near the mouth of the Rio Negro and contains approximately 57,000 acres. Another part of the properties of this company lies opposite the station of Abuna, on Maderia-Mamore Railway, and consists of about 36,000 acres.

Both of these vast tracts of land are in their virgin state, and the new corporation, which is capitalized at \$1,000,000, proposes to first **EXPLOIT THE LUMBER RESOURCES**. There is said to be an abundance of hard woods, such as ebony, mahogany, rosewood, stainwood, and a great variety of medicinal plants, which are accessible to the railway or to watercourses.—The company operating stage coaches between Atocha and La Quiaca, a distance of about 125 miles, has made a proposition to the Bolivian Minister of Fomento whereby **AUTOMOBILE TRUCKS** will supersede the horse-drawn vehicles. The stage line referred to connects the Bolivian railways with those of Argentina, and the introduction of motor cars would shorten the time of the trip between the two countries. The proposition is now under consideration.—On September 14 a **NEW LINE OF TELEGRAPH** was opened to the public between La Paz and Guaqui. This line was constructed by the Government in order to assist the overworked lines maintained by the railway company connecting the two places. In the Canton Tiuluni, near Chuma, Señor Daniel Bedregal has established a **SCHOOL FOR INDIANS**, which already has 56 students. The work just started has so pleased the Minister of Public Instruction of Bolivia that aid will be given the founder of the school in the form of school furniture and he will be otherwise encouraged in extending the work of education in that region.—Señor Don Victor E. Sanjines, former Minister of Foreign Affairs of Bolivia, has arrived in New York with his family and will probably remain in the United States for some months.—Señor Don Juan Lagos Marmol, Envoy Extraordinary and Minister **PLENIPOTENTIARY FROM ARGENTINA**, was officially received by President Montes at La Paz.—Mr. Horace G. Knowles, formerly United States Minister to Bolivia, and at present a resident of La Paz, has presented to the municipal authorities a plan for the **BEAUTIFICATION OF A SECTION OF THE CAPITAL** city. The plan contemplates only a small financial outlay, but the results that would be gained, it is believed, would enhance the civic aspect of La Paz and greatly augment the splendid natural beauty of the region in which the capital is located. The La Paz newspapers speak of the project with enthusiasm.



The ninety-fourth anniversary of the **INDEPENDENCE** of Brazil from Portuguese rule was celebrated throughout the Republic on September 7 last, one of the most notable features of the celebration being a military parade in Rio de Janeiro, which was reviewed by

the President and his cabinet and a large number of distinguished persons.—The BRAZILIAN SOCIETY OF SCIENCES has been established in Brazil to promote scientific study and research work. Dr. Henrique Moritz is President of the Society, whose initial membership numbers 50 of the most eminent Brazilian scientists. The membership will be limited to 100, and the other 50 members will be selected in April, 1917.—According to official statistics the exports of Brazilian WOODS from 1913 to end of 1915 were valued as follows: 1913, 1,358 contos paper; 1914, 1,204 contos; 1915, 2,147 contos. Pine and jacarandá were the two varieties most commonly exported. The hardwood forests of Brazil are practically inexhaustible and great development is expected in this industry.—The Brazilian Press Association inaugurated its new offices on September 10, 1916, in the Lyceum of Arts and Crafts, Avenue Rio Branco, and celebrated with appropriate ceremonies on that date the anniversary of the founding of the Brazilian PRESS on September 10, 1808, when the "Gazeta do Rio de Janeiro" made its first appearance.—A bill is now before the Brazilian Congress authorizing the Government to change the ORGANIZATION of the Central Railway of Brazil, the Lloyd Brazilian Steamship Line, and the Rio Port Works into stock companies similar to the present organization of the Bank of Brazil. Should this change be effected, the Government will open subscriptions in all the financial centers of Brazil, Europe, and America for the sale of shares up to one-half of the capital stock of these corporations, keeping in its possession the other half and the total capital in debentures. The proceeds of such a sale would be incorporated in the general revenues of the Republic.—The First Brazilian CONGRESS OF NEUROLOGY was held in Rio de Janeiro August 23–26, 1916. The work of the Congress was divided into three sections, neurology, psychiatry, and medical jurisprudence, with special committees for each section.—According to the "Comercio do Paraná" of Coritiba, a large PAPER FACTORY is soon to be established in the State of Parana, using only Paraná pine for the manufacture of paper.—A BRAZILIAN CLUB composed of resident Brazilians has been organized in Cincinnati, Ohio, to furnish business men and manufacturers full information about Brazil and opportunities for trade there.—Dr. Nilo Peçanha, President of the State of Rio, gives some interesting details in his recent MESSAGE on the great revival in agriculture in that State. Many large plantations formerly abandoned are now being planted in sugar cane, cotton, textile plants, tobacco, and wheat. The value of exports from the State for 1915 aggregated 129,069 contos paper.—The Senate of the State of Sao Paulo has been asked to appropriate funds for the erection of a MONUMENT in one of the principal squares of Sao Paulo to perpetuate the memory of the great statesman, Fran-

cisco Glycerio.—On August 19 the hundredth ANNIVERSARY of the birth of the great jurist and patriot, Augusto Teixeira de Freitas, was celebrated in Rio de Janeiro with impressive ceremonies.—A FRENCH CHAMBER OF COMMERCE has been organized in Sao Paulo to promote French commercial relations in that section of Brazil.—The city authorities of Rio Grande, State of Rio Grande do Sul, have been authorized to effect a LOAN for 8,500 contos at 9 per cent interest for sanitary purposes and for extension of the water system.—More than 50 thoroughbred HEREFORD CATTLE were recently imported into the State of Minas Geraes from Uruguay for breeding purposes.—A NATIONAL DEFENSE LEAGUE is soon to be established in Rio de Janeiro over which the President of the Republic will preside.—The Automobile Club of Brazil has invited every State in the Union to participate in the First GOOD ROADS CONGRESS, to be held shortly in the Federal Capital. The Government of the State of Rio has distributed gratis during the year 1916, 102,000 plants, shrubs, and trees. All were grown in the Botanic Gardens of Nictheroy and included fruit trees, precious woods, and ornamental shrubs and plants. It is planned to make a much larger distribution during the season of 1917, which will run from May to October.—The BUDGET of the municipality of Rio de Janeiro for the year 1917 as estimated by the budget commission calls for expenditures of 44,778 contos paper, with estimated receipts sufficient to cover all expenditures.



According to Chilean newspapers the bill providing for the construction of NEW HARBOR WORKS at Antofagasta has passed both houses of the National Congress, and active construction is likely to begin at an early date. Within two years this important nitrate port has built many new and modern paved streets, waterworks have been installed, motor cars introduced in the place of the old-time mule tramways, and the city's activity is most pronounced. Improvements of the port, therefore, are in accordance with the general plan of upbuilding and modernizing.—Renewed attention on the part of Chilean officials is being manifested relative to an entire INSIDE WATER ROUTE between Porto Montt and the Strait of Magellan via the Isthmus of Ofqui. From time to time engineers and naval officers have made studies relative to a canal across this neck of land, and the plan seems to be practical. At most seasons of the year the rough or tempestuous seas of the south

Pacific make an inside route very desirable for Chilean as well as other commercial interests.—With the coming of spring in Chile the COPPER and other mining interests appear to be more active than for several months. In September one company produced over 4,000,000 pounds of this metal, or at the rate of 48,500,000 pounds per year. Newspaper reports show that the Chile Copper Co. proposes to increase its several units and within a few months have facilities for mining at least 10,000,000 pounds of copper per month. —According to newspaper reports large mining interests near Calama have been acquired by the Chile Exploration Co., the United States corporation which has made such extensive development in similar work at Chuquicamata, Chile. The new properties lie in the same region and are served by the Antofagasta & Bolivia Railway, which transports the products to the port of Antofagasta. The price paid for the new mines is reported to have been slightly more than \$1,000,000, and includes the properties Rosario del Llano, Poderosa, Buena Vista, Panizo, Carolina, and Patagonia.—During the last two years more than FIFTY STUDENTS FROM CHILE have matriculated in schools and colleges of the United States. Last year's delegation contained three young women; and the latter are now teaching in Columbia University, Pennsylvania Normal School, and Winthrop School, Rock Hill, S. C., respectively.—A bill has been presented to Congress asking for an appropriation of \$40,000 to pay salaries and other expenses of two specialists to study the possibilities of MANUFACTURING PORCELAIN, iron, and enamel ware in Chile. The bill reiterates the well-known fact that in the Republic there are abundant refractory clays, plenty of wood for fuel purposes, and great quantities of iron deposits. Each year Chile imports large quantities of articles made from such materials as the country possesses, and those who favor the project believe the time is ripe for embarking in this manufacturing enterprise.—The Chilean branch of the National City Bank will have headquarters in Valparaiso, and all kinds of COMMERCIAL LITERATURE suitable for use of Chilean business men will be welcomed by the new branch. The address will be Apartado 1508, Valparaiso, Chile.—Chilean papers are devoting considerable space to discussing the importance of developing the wood-pulp industry. There is abundant supply of suitable wood in southern Chile, as well as water power that could be harnessed at a very reasonable outlay. Thirty million bags, largely made of jute, are used yearly in shipping nitrate, while grains also require a vast number of bags. The present jute sacks are imported largely from India and cost at the nitrate ports about 9 cents each; they are of 200-pound capacity. It is believed that the wood pulp might be substituted for the jute, and thereby build up a flourishing home industry.

COLOMBIA

The wheat-flour industry established recently by the Department of Antioquia has greatly encouraged the CULTIVATION OF WHEAT. At the present time there are 396 farms, representing an area of 2,625 hectares (hectare = 2.47 acres), engaged in raising this cereal. The Abejorral and Sanson districts are the greatest producers of wheat in the Department of Antioquia, which now has 18 flour mills in operation.—The National Government has contracted with Evaristo R. Groot to construct a wharf at the mouth of the Sinu River, Gulf of Morrosquillo, to facilitate the operation of a COLD-STORAGE PLANT soon to be erected at that place.—Data have been compiled showing that the production of PLATINUM in Colombia during the past four years was 63,500 ounces, as follows: In 1912, 12,000 ounces; in 1913, 15,000; in 1914, 17,500; and in 1915, 19,000. These statistics show that the production of this element in Colombia is only exceeded by that of Russia.—The public improvement society of Medellin has founded in that city a SCHOOL OF SCULPTURE, painting, and drawing for women.—The Agricultural Society of Colombia held an AGRICULTURAL FAIR in Bogota on October 27 last, centenary of the death of the national patriot and friend of Colombian agriculture, Francisco José de Caldas.—In 1915 the ANAGA RAILWAY carried 788,329 passengers, 24,915 metric tons of freight, and 85 tons of baggage. This road has 36.5 kilometers in operation and reports gross annual earnings of \$3,617 per kilometer.—A BANKING corporation capitalized at \$500,000, under the management of Manuel Mejía, has been organized at Manizales, Department of Caldas. A branch of the International Banking Corporation of New York was recently opened at Medellin.—The San Vicente HOSPITAL, a large institution modernly equipped, is being constructed in Medellin.—The government of the Department of Cundinamarca has approved the budget providing for the building of an AUTOMOBILE ROAD between Bogota and La Dorada at a cost of \$4,845,882. The contract has been let to an American firm.—A law enacted in 1916 authorizes the National Government to complete the TOLIMA RAILWAY as far as Ibague and to borrow not exceeding \$400,000 to be used in carrying on the work.—A law has been passed by the National Congress authorizing the appointment of a commission of engineers to make a complete report of the survey and construction of the NORTHERN CENTRAL RAILWAY, which is to be built under the direction of the National Government.—A recent law provides that the FISCAL YEAR of the treasury department shall commence on March 1, of each year.—Gen. Pedro Nel

Ospina has been authorized by the government of Antioquia to contract for **BELGIAN INSTRUCTORS** in chemistry, agronomy, and veterinary science for the School of Agriculture at Medellín.—On August 20 last the **ASSOCIATION OF COMMERCIAL EMPLOYEES** of Cartagena was organized under the presidency of A. Lecompte. The association has an educational, a charitable, and an employment section.—The government of the Department of Antioquia has bought at Fontidueño, in the Bello district, a large tract of land to be used as an agricultural experimental station for the growing of **TOBACCO**.—The University of Antioquia has established a chair of **TROPICAL DISEASES**.—In September last a **SANITARY COMMISSION** from the United States, composed of Drs. Gorgas, Carter, Guiteras, Whitmore, and Wrightson, arrived in Colombia. This commission proposes to visit several South American countries to study tropical diseases.—Advices from Caldas are to the effect that the government of that Department has appointed James Gutierrez to negotiate a **LOAN** for the construction of a railway in that Department.—The Medellín **BOARD OF TRADE** has elected the following officers: Nicanor Restrepo R., president, and Manuel Escobar and Enrique Mejía O., vice presidents.

COSTA RICA

Chandler & Co., of New York, have become the fiscal agents of Costa Rica in the United States, the announcement having been made recently by the minister of finance, Señor Mariano Guardia. This move, it is believed, will be the means of bringing additional capital into Costa Rica, and it is further announced that several financial transactions are under consideration based on the bank's entry into the new field.—Don Enrique R. Guier, governor of the Province of Cartago, is taking an active interest in **IMPROVING THE HIGHWAY** between Cartago and San Jose, and to that end proposes that private subscriptions be made by interested persons, as well as at least some financial aid from the public treasury. The gradual increase in the number of automobiles in San Jose and vicinity is urging the extension of highways suitable for their use.—Don Domingo Gonzalez and Señora de Gonzalez, parents of the President of Costa Rica, Don Alfredo Gonzalez, returned to Costa Rica from a visit to the United States and were received in Limon by officials of the Government and by friends.—Angel Camacho, a young native Cost Rican, has invented a **NEW TYPE OF STEAM ENGINE**, which was demonstrated in the Department of Fomento in San Jose recently. The youth has worked three years on his invention, which is reported to show some decided improvements over engines in daily use. Considering the fact that the youth has had little schooling and is unfamiliar with scientific works, his talent along mechanical lines is still more remarkable. The Government officials are impressed with the ideas of the young man and may possibly aid him.—**PARCEL-POST AGREEMENTS** have been entered into between Costa Rica and Colombia. In La Gaceta, of San Jose, of

September 2 the various regulations pertaining thereto are fully stated in 15 articles.—Many products of Costa Rica will be placed on permanent EXHIBITION at Los Angeles, Cal., in accordance with the provisions of the chamber of commerce of that city, which has arranged to show the products of various countries of Latin America. Señor E. Roberts, the Costa Rican consul in Los Angeles, will aid the authorities in various ways.—From September 14 to 17, inclusive, the city of Limon celebrated the ONE HUNDRED AND TENTH ANNIVERSARY of the independence of Central America, and also the inauguration of an agricultural society of Limon. The city was gaily decorated, and at night electrical illuminations added beauty to the tropical surroundings. There were carnivals, balls, athletic games, balloon ascensions, as well as serious attention given to the opening of an agricultural exhibition organized by the Junta Agrícola Industrial of Limon. Many visitors from interior sections of Costa Rica and elsewhere were in attendance, and special trains were operated on the Northern Railway to handle the crowds.—COTTONSEED OIL to the amount of 60,000 gallons is annually consumed in Costa Rica. Many people prefer this oil to lard for cooking purposes, and the use of the former is gradually extending.

CUBA

There are many comments in the world's press on the outlook in Cuba, all of which are most favorable. The prosperity of the island on account of the record sugar crop just harvested and the high price it commands is seen on every hand and there is every reason to believe that it will continue for many years. According to press dispatches the final output of the 1915-16 SUGAR CROP was 3,007,915 tons, as compared with 2,592,667 tons for the preceding crop.—On October 2, 1916, the President of the Republic issued a decree naming Dr. Raimundo Menocal as SECRETARY OF SANITATION to succeed the late Dr. Enrique Nuñez.—The Secretary of Sanitation has announced that he has decided upon Juan Tomas Key, in Cabañas Bay, as a location for the NEW HOSPITAL FOR LEPERS. The hospital, already half constructed, on the Dos Hermanos farm will be used for a sanitarium for treatment of tuberculosis patients.—An important shipping agency has recently been established in Habana under the title of WEST INDIES SHIPPING CO. which will attend to all classes of shipping business for North, Central, and South American ports.—Due to the great increase in the number of sugar centrals and demand for labor, the number of IMMIGRANTS entering the Republic has shown considerable increase during the year 1916. It is expected that 18,000 immigrants will come from Spain during the months of November and December, 1916.—The new steamer *Cauto*, of the Ward Line, will be placed in service between the United States and Cuba early in November. The Ward Line has begun the construction of the *Niagara* and *Libertad*, two 16,000-ton STEAMERS, for its Cuban service.—The consul general of Mexico in Habana, Sr. Antonio Hernandez Ferrer, has presented to the secretary of state his credentials from

President Carranza, authorizing him to act as chargé d'affaires, while continuing also as consul general.—The international committee of the OLYMPIC GAMES, at a recent meeting in Paris, have decided that the games shall be held in Habana in 1920, provided certain conditions are fulfilled. President Menocal has named an Olympic games committee to formulate guaranties and plans to be sent to the international committee in acceptance of their proposal.—An important company of the leading business men of the island has been organized under the name of CENTRAL TAYABA COMPAÑIA AZUCARERA to establish a new sugar central at Trinidad, with a capacity of 100,000 bags of sugar annually. The president of the company is Gustavo G. Menocal, and the directorate includes the names of some of the best-known sugar men.—Immense deposits of POTASH have been discovered in Santa Clara Province, which, according to Government expert chemists, analyze 12.50 per cent pure. Many samples average as high as 20 per cent soluble potash, and the deposits are said to cover over 10,000 acres. The quality is said to be fully as good as that of the famous potash mines of Germany.—The monthly report of the Cuban TREASURY for September shows total receipts of \$4,700,000 for the month and an increase in customs receipts of \$2,915,390 over the same month in 1915. The total expenses of the month were \$4,184,511, or almost \$600,000 less than the governmental income.—The new NAVAL SCHOOL at Mariel will be inaugurated on October 29, when impressive ceremonies will be observed in celebration of the important event.—Two new branches of the SPANISH BANK have recently been opened in Habana, which makes a total of eight branches now established in the city.—On October 8 the secretary of agriculture and officials of the Compañia Azucarera Hispano-Cubana attended the ceremony of driving the first spike at Bahía Honda on the new Bahía Honda-Pinar del Rio RAILWAY which is to be constructed by the Northwest Railroad Co. The new line will tap a rich commercial section and will connect the coast with the main line of the Western Railways of Habana. Cuban and Spanish capitalists are financing the undertaking.

DOMINICAN REPUBLIC

On October 24, 1916, the department of public works of the Dominican Republic contracted for the construction of a CUSTOM-HOUSE in the city of Santo Domingo. The building, which will be entirely of concrete, is to be situated on the western bank of the Ozama River and will be erected in accordance with plans approved by the department of public works. In 1915 the gross revenues derived from collections made through the customhouses of the Republic aggregated \$3,882,048, of which \$1,197,856 came from the port of Santo Domingo, the most important revenue-producing customhouse of the Republic. The revenue from the other Dominican ports, in the order of their importance during the year referred to, were as follows: Puerto Plata with a gross revenue of \$862,987; Macorís, \$731,604; Sánchez, \$712,803; Monte Cristi, \$113,432; Azua, \$110,-

365; Samaná, \$81,395; La Romana, \$66,954; Dajabón, \$1,614; Las Lajas, \$1,150; Comendador, \$1,120; and Barahona, \$768. It will be seen, therefore, that the port of Santo Domingo in 1915 collected nearly one-third of the customs revenues of the country. In 1915, out of a total commerce of imports of \$9,118,514, the share of the United States was \$7,361,259. The total exports of the Dominican Republic in 1915 were valued at \$15,209,061, of which \$12,044,271, or nearly 80 per cent, went to the United States. In 1915 the exports of sugar through the port of Santo Domingo amounted to \$1,315,838; of cacao, \$269,462; and of coffee, \$210,842. This new customhouse has been specially designed to handle in a quick, safe, and economical manner the growing trade of the port of Santo Domingo, and its completion and opening to the public service will fill a long-felt want.—According to the Dominican press the RESIDENCE OF THE PRESIDENT of the Republic in the Federal capital has been transferred to 19 of March Street, corner of Salomé Ureña Street.—The daily newspaper entitled *Ecos del Norte* (Echoes of the North) of Puerto Plata announces that work has been commenced on the PUBLIC HIGHWAY which is planned to run from the City of Santo Domingo de los Caballeros to San José de las Matas. The length of the road is 8 kilometers.—A new daily NEWSPAPER entitled *El Progresista* (The Progress), the recognized organ of the party of that name, has been founded in the City of Santo Domingo.—G. W. Kane, superintendent of the Leonard Construction Co., of the United States, according to reports from Puerto Plata, is directing the construction of a WHARF and landing place at that port, the contract for this work having been let by the Dominican Government to the company referred to. Preliminary construction work on this undertaking was commenced about the middle of last September, the entire work to be completed within a year. Puerto Plata, which exported in 1915 cacao valued at \$924,113; leaf tobacco, \$649,900, and coffee, \$145,357, will, therefore, soon have a modern wharf, which, together with other port improvements now being made at that place, and the reconstruction of the Central Dominican Railway, will greatly encourage and facilitate the growth of trade of that progressive and important export center.

ECUADOR

In an executive decree of September 9, President Alfredo Baquerizo Moreno names his CABINET as follows: Minister of the interior, Dr. José María Ayora; minister of foreign relations, Dr. Carlos Tobar Borgoño; public instruction, Sr. Miguel Angel Carbo; finance, Sr. Carlos A. Borja; war and marine, Sr. don José María Barona.—“Cabuya,” an Ecuadorian fiber plant common throughout the country, promises to become an important product for export, as it has been found to be suitable for the manufacture of ROPES and CORDAGE, and a company has been organized in the Province of Manabí to exploit it on a large scale.—According to *El Ecuatoriano*, a newspaper of Guayaquil, work on constructing the new building of the BANK OF PICHINCHA will soon be begun.—The MANTA-

SANTA ANA RAILWAY CO. has secured a loan of 100,000 sucres from the Government with which to continue work on the road. The Government has also sent funds for the repair of the Bahia de Caraquez to Quito railway, so as to enable traffic over the entire line to be expedited as rapidly as possible.—A bill has been presented to Congress regulating the importation and sale of OPIUM in the Republic.—Congress has approved the law prohibiting employers from requiring workmen and employees in general to labor more than EIGHT HOURS a day during 6 days of the week, Sundays and holidays excepted, without extra compensation.—Congress has approved the decree authorizing the executive to have 500,000 sucres coined at once in FRACTIONAL CURRENCY.—According to statistics furnished by the Agricultural Association of Ecuador, 595,496 quintals of CACAO were received in Guayaquil from January 1 to August 1, 1916, from Arriba, Balao, and Machala, as follows: Arriba, 510,439 quintals; Balao, 70,333; Machala, 14,624.—Land has already been purchased in the city of Riobamba, Province of Chimborazo, for the erection at an early date of a large SPINNING FACTORY. According to the press, the factory is to be erected by the owner of similar factories in the Province of Imbabura.—The FOREIGN COMMERCE of Ecuador during the year 1915 amounted to 60,000,000 sucres (sucre = \$0.4867), made up of imports to the value of 26,000,000 sucres and exports to the value of 34,000,000 sucres. The total weight of the imports aggregated 93,000,000 kilos, and the total weight of the exports amounted to 75,000,000 kilos. The excess in weight of imports over exports is accounted for by the fact that many of the imports are bulky, such as machinery, construction materials, etc. The balance of trade in favor of the Republic for the year 1915 amounted to 8,000,000 sucres. The United Kingdom ranked first and the United States second in the value of imports.—According to the recent report of the minister of public instruction for the year 1916, there are 1,114 elementary government schools in the country, 151 municipal schools, and 135 private schools. Ecuador, with an approximate population of 2,000,000 inhabitants, had a total enrollment in these schools for the year 1916 of 97,395 pupils.—The Congress of Ecuador has ratified the TREATY OF BOUNDARY LIMITS between Colombia and Ecuador signed in Bogota early in July last.—The chargé d'affaires of the United States, Mr. Perry Belden, gave a reception at the legation in Quito, which was attended by the new President, Dr. Baquerizo Moreno, the retiring President, Gen. Plaza, members of the diplomatic corps, Government officials, representatives of the municipalities of Quito and Guayaquil, as well as prominent members of Ecuadorian society.

GUATEMALA

A recent executive decree modifies the charges for transmitting TELEGRAPH AND TELEPHONE MESSAGES as follows: Local telegrams of not more than eight words, written in the Spanish language and delivered during the usual working hours, 2 pesos each. A charge of 1 peso is made for each four words or less than four words

additional. Telegrams sent to other countries of Central America are to be paid for at the rate prescribed in executive decree of May 15, 1911. Telephone messages between local points during the usual hours of service are to be charged for at the rate of 6 pesos for each five minutes of conversation.—The National Government has contracted with the manager of the Guatemalan Railway for the installation of an abundant supply of POTABLE WATER brought from the Escobas River to Puerto Barrios. Since the recent fire in the city referred to the municipal authorities have arranged to straighten and widen certain streets of the city, put in sewers, provide suitable pavement, plant trees, and make other improvements tending to the sanitation and beautifying of the port. These improvements are fast making of Puerto Barrios one of the most beautiful and healthful towns of the Republic.—The Manual Training School at Huehuetenango has established a small MUSEUM of ancient relics found in the immediate vicinity and throughout the Republic. Other schools will probably follow this example, and a systematic collection of native curiosities by school children will be inaugurated in the country, thereby saving from destruction many of these interesting and valuable relics of the aborigines of Guatemala and conveniently arranging them for examination and study.—The municipality of San Juan Sacatepeque has been authorized by an executive decree of July 25, 1916, to use in its ELECTRIC light and power plant the waters of the Pixcaya River for the development of electricity instead of the waters of the Pashot River which have proven inadequate for the purpose.—The American BANK of Guatemala City, which was established in 1895, had on June 30, 1916, a paid-up capital of 4,000,000 pesos and a reserve fund of 1,700,000 pesos. The Occidental Bank of Quezaltenango, established in 1881, had on June 30 last a paid-up capital of 1,650,000 pesos and a reserve fund of 10,000,000 pesos. The Bank of Guatemala, established in 1895, had on December 31, 1915, a paid-up capital of 2,500,000 pesos and a reserve fund of 8,576,672 pesos.—Felix Calderon Avila has been appointed secretary of the Guatemalan CONSULATE in San Francisco, Cal., and Isaac de Hart vice consul of Guatemala at La Guaira, Venezuela.—An American centrifugal electric PUMP has been installed in Minerva Park in the city of Guatemala at a cost of \$2,305. gold.—A NATIONAL EXPOSITION will be held in the city of Guatemala from September 29 to November 5, inclusive, for the purpose of showing the progress in the agricultural and industrial development of the country. Special stress is laid this year on agriculture and the exhibits displayed will be the best in the history of the country. Important prizes will be awarded to every variety of agricultural products and the highest prize will go to the best exhibit of Guatemalan coffee. A special committee of awards will present its report before the close of the exposition.



Monsieur Sténio Vincent has been appointed by the President of the Republic SECRETARY OF INTERIOR AND PUBLIC WORKS in place of Monsieur Constant Vieux, resigned.—The

President recently reviewed on the Champ de Mars, before their departure for the frontier, the Nineteenth Company of Haitian MOUNTED POLICE, organized at Port au Prince.—Preliminary work has begun on the construction of a BRIDGE at John Brown Avenue and Poste Marchand Street in the national capital.—Early in August expert engineers arrived in Port au Prince from the United States to begin work on constructing the large SUGAR PLANT in the Plaine du Cul de Sac. The plant will be one of the largest in the West Indies and will be run entirely by electricity. The Plaine du Cul de Sac Railway will be extended some 30 kilometers or more to furnish shipping facilities to the new plant.—A NEW BI-WEEKLY has appeared in Port au Prince, entitled *L'Evolution*, under the management of Mons. Luc Aléandre.—Under the name of *Triomphe de la Jeunesse*, a LITERARY CLUB has been organized in the national capital, with Messieurs Fernand Labissière and André Pierre-Pierre as president and vice president, respectively.—The Official Daily of Haiti has recently published the REPORT submitted to the minister of finance by the Haitian delegation to the Pan American Financial Congress of Buenos Aires.—By a presidential decree Messieurs A. Moïse is named president and Fontanes Gabriel and A. Bouchereau members of a special commission which will act as a COURT OF ACCOUNTS.—Le *Matin*, of Port au Prince, announces that the company engaged in repairing the streets of the capital has begun work on the WHARF to Bizoton, which will extend along the seashore and furnish a beautiful promenade.—Le *Moniteur* of August 2, 1916, publishes the full text of the presidential decree organizing a board of STATE COUNSELORS and determining their duties. The president has intrusted the board with the general revision of the constitution of the Republic and the formulation of appropriate laws, in accordance with the proposed amendments to the constitution, to be submitted to the consideration of a national constitutional assembly convoked by the executive power.—The department of education has named special committees to take a CENSUS of children of both sexes between the ages of 7 and 14, to determine the school population of the capital city.—An executive decree, published in Le *Moniteur* of September 16, grants permission to the HAYTIAN AMERICAN SUGAR CO., a North American corporation, with head offices in Wilmington, Del., to operate in the country.—On September 7, in a message to all the ministers of his cabinet, the President outlines plans for the reorganization and improvement of PUBLIC UTILITIES.—A decree has been issued providing for the opening of a SPECIAL CREDIT of 996,623 gourdes and \$448,614 American gold, so that the Government may have funds for the payment of expenses as budgeted for the first three-month period of the fiscal year 1916-17.—Le *Matin* announces that New York capitalists have bought up large tracts of land in the northern part of the Republic for sugar-cane plantations and will soon construct there a SUGAR CENTRAL similar in equipment and capacity to the one soon to be established in the Plaine du Cul de Sac.—An executive decree of September 20, 1916, grants complete AMNESTY to all citizens who are subject to judicial procedure on account of political events which took place at Port au Prince on January 5, 1916.—In accordance with a recent executive decree the BUDGET for the past year as fixed by the law of December 2, 1915, will be continued in force for the fiscal year 1916-17.

HONDURAS

Of the new HIGHWAY now being constructed by the National Government from Tegucigalpa to Puerto Cortes the first 20 kilometers have been completed. This road is being graded in the vicinity of Amapala, and it is the intention of President Bertrand, according to press reports, to complete the work before the end of his administration. Up to the present time more than 100,000 silver pesos (peso = \$0.3537) have been spent in carrying on this work, and it is expected that by February, 1917, the first 100 kilometers (62.1 miles) between Tegucigalpa and Comayagua will have been finished. Other public works which the President is interested in terminating during his administration, according to an article published in the *Nuevo Tiempo* (New Time) of Tegucigalpa are a number of railways in the northern coast region of the country and the connecting of the Great Zacate Island with Amapala by means of an embankment surfaced with concrete or by a suspension bridge over which the electric tramway can cross.—A law has been promulgated imposing taxes of 1 peso, 25 and 10 centavos, respectively, on each automobile, wagon, and mule which leaves the port of San Lorenzo, Department of Valle, loaded with merchandise consigned to any destination. This tax is collectible by the municipal treasurer of San Lorenzo, and the proceeds of same are to be used exclusively for the building of an AQUEDUCT for supplying the City of San Lorenzo with potable water. The National Government has had plans prepared, completed the survey of the aqueduct, and has received an estimate of its approximate cost. The Yoro Aqueduct is another important work now under construction by the municipality of Yoro in cooperation with the Federal Government. The Junta de Fomento (development board) of Yoro recently delivered to the committee which has in charge the building of the Yoro Aqueduct nearly 6,000 pesos to be used in the construction of this work, and arrangements have been made to raise an additional fund by taxation authorized by the National Government, so that this work will be steadily pushed forward until it is completed.—A report of the governor of the Department of Itibuca shows that the estimated yield of INDIGO for the present year in the Camasca district of that Department is valued at 200,000 pesos. The prices obtained for indigo have greatly increased during the last few years, and where transportation facilities are available at reasonable rates this crop is proving to be one of the most profitable of the Republic.—A society under the name of "Junta de Fomento" (development board) has been organized in Comayagua. This organization proposes to give a large part of its attention to the improvement of agricultural and stock-raising methods in that vicinity, and special efforts will be made to encourage the betterment of the sanitary condition of that locality. Ramón Guzmán M. is president, and Lic. Valentín Cáliz, secretary, of the society.—The Trujillo Railroad Co., according to information received from the *Pabellon Latino*, a daily newspaper of La Ceiba, will run at least one STEAMER per month between La Ceiba and New Orleans until further notice. In December next arrangements have been made to launch the *Lempira*, a vessel fitted for passenger and freight service on the Yojoa Lake, the largest lake in the Republic.

MEXICO

The new **POSTAL MONEY ORDER TARIFF**, which became operative on October 1 last, makes the following charges: For amounts up to 10 pesos, 20 centavos; over 10 pesos and not more than 20, 40 centavos; over 20 and not more than 30 pesos, 60 centavos; over 30 and not more than 40 pesos, 80 centavos; over 40 and not more than 50 pesos, 1 peso; over 50 and not in excess of 60 pesos, 1.20 pesos; over 60 and not in excess of 70, 1.40 pesos; over 70 and not in excess 80, 1.60 pesos; over 80 and not in excess of 90, 1.80 pesos; over 90 and not in excess of 100, 2 pesos; and for amounts in excess of 100 pesos, 20 centavos for each 10 pesos or fraction thereof. The maximum amount of the usual money order is 200 pesos.—A decree of the governor of the State of Coahuila establishes a **DEPARTMENT OF LABOR** whose duty it is to collect, classify, and publish labor statistics and information relating to labor in the State; to act as abritrator in labor disputes when requested to do so by one or more of the parties in interest; and, when requested so to do, to serve as intermediators in disputes concerning contracts between laborers and capitalists by any of the parties in interest.—Twenty locomotives and other **RAILWAY SUPPLIES** purchased in the United States by the commission appointed by the Government for that purpose arrived at Piedras Negras in September last.—A new issue of **POSTAGE STAMPS** bearing engravings, in the different denominations, of Francisco I. Madero, Jesus Carranza, Maclavio Herrera, and other noted Mexicans is to be put in circulation on January 1, 1917.—General José Bermudez de Castro has been appointed **MINISTER** of Mexico near the Government of Guatemala.—An Executive decree of October 7, 1916, prohibits **BULLFIGHTING** throughout the Republic. A violation of the decree subjects the offender to the payment of a fine of from 1,000 to 5,000 pesos or imprisonment of from two to six months, or both.—The governor of the State of Yucatan has taken preliminary steps toward the holding of a **CONGRESS OF NEWSPAPERS** in the City of Mexico in the near future. El Universal, an important daily paper of the National Capital, is cooperating with the governor referred to, and invitations have been sent to newspapers throughout the Republic to participate in the proposed congress, the date of which has not yet been determined.—A new monthly **EDUCATIONAL MAGAZINE**, entitled La Evolución Escolar (The Educational Evolution), is soon to be published in the City of Mexico under the management of Lic. Agustín Gonzalez and the editorship of Prof. Aurelio Zuñiga L.—The Emperor of Japan has officially received in special audience Col. Manuel Pérez Romero, the newly appointed Mexican **MINISTER** near the Government of that country.—The department of fomento has granted a concession for the exploitation of **GOLD PLACERS** found in the beds of the Zapotillo and Libertad Creeks in the State of Michoacan. The concessionaires are authorized to work the gold-bearing sands along these streams to the points where they empty into the Pacific Ocean.—A concession has been granted to a Tampico petroleum company to establish an extensive **TELEPHONE SYSTEM** in the States of Vera Cruz and Tampico. The proposed line is to start from Matillas, State of Vera Cruz, and will terminate in Tampico, State of Tamaulipas.

NICARAGUA

A new CUSTOMS TARIFF, having the approval of the custom-house authorities of the country and supported by statistics based on importations of dutiable goods entering the Republic during the last few years through the principal ports of the nation, is ready to be submitted to the consideration of the National Congress. The bulk of Nicaraguan imports in which the people of that Commonwealth are intimately concerned consists of the necessities of life, such, for instance, as beans, rice, flour, canned and fresh vegetables, lard, hams and shoulders, salt beef, salt and canned fish, milk, cheese, butter, and numerous other articles required for the daily consumption of the people and which are difficult to obtain in sufficient quantities from the domestic supply to meet the demands of certain communities of the Republic, and particularly some of the sections of the Atlantic and Pacific coast regions. Nearly all of the items mentioned, with the exception of flour, are imported through the Atlantic coast customhouses. Flour, however, is produced in the interior of the country in quantities large enough to supply the wants of the inhabitants of the Pacific coast side of the Republic, and transportation facilities are such as to enable that product to be shipped and consumed in that portion of Nicaragua in preference to imported flour. The object of the proposed tariff, according to newspaper reports, is to increase the revenues of the Government without placing unnecessary restrictions or burdens upon the consumers, consisting largely of the laboring public, of the absolute necessities of life, the idea, in the main, being to augment the national revenues by increasing, in so far as possible, the taxes on luxuries. The prospective tariff referred to is still in the making, and will doubtless be worked out in such a manner as to equitably meet the needs of the great majority of the inhabitants of the country.—C. H. Halter and Alfred Mannheim, representing the New York Museum of Natural History, have lately been in the vicinity of Bluefields in search of snakes and other SPECIMENS OF REPTILES to add to their large and ever increasing collection. These gentlemen propose to visit the San Juan River and Prinsapolka districts and later the region around Lake Nicaragua and the mining section of the eastern part of the Republic.—*Eric II*, a large and commodious freight and passenger steamer plying between Nicaraguan and United States ports, recently visited Colorado Bar on the East Coast of the Republic, with the object of loading 600,000 feet of CEDAR LOGS consigned to the Geo. D. Emery Co., of New York. According to press reports, the cedar came from the upper San Juan and Lake Nicaragua districts and makes the finest and most valuable cedar cargo ever shipped from the East Coast of the Republic. The Belanger Incorporated Co., who are the shippers of these logs, loaded two schooners in October last with 600,000 feet of sawed cedar and mahogany, as well as a third schooner carrying over 600,000 feet of these materials. During the month referred to this company consigned 780 mahogany logs to the Otis Manufacturing Co., New Orleans.—Herbert A. Watson, who has managed the interests of La Luz and Los Angeles MINING companies on the East Coast of Nicaragua, has resigned his position and returned to the United States.—The Nicaraguan Commercial

& Logging Co. has shortened the time of its service from TUNKA TO PRINSAPOLKA, and vice versa. The distance, 306 miles one way, is now made in 36 hours, or at the rate of $8\frac{1}{2}$ miles per hour. A few years ago five days was the shortest time in which this journey could be made. The CUSTOMS RECEIPTS of the Government of Nicaragua for the first half of 1916 amounted to \$502,919, as compared with \$387,722 during the first half of the previous year.

PANAMA

The Bureau of Statistics of the National Government has published data showing that the NATIONAL CAPITAL has 2,287 houses, valued at \$14,450,630. The yearly rental of these properties represents a sum amounting to \$3,175,295, and the taxes collected on same aggregate \$95,258. The city of Panama has also 441 lots representing 260,460 square meters, valued at \$1,131,125. The annual taxes on these lots, according to the present assessments, are \$2,912. The statistics referred to further show that in the Province of Panama there are 3,378 houses valued at \$14,822,775, with a rental value of \$3,236,000, the annual amount collected in taxes on these properties representing \$97,347.—President Ramón M. Valdez, whose term of office began October 1, 1916, and will expire on October 1, 1920, has appointed the following CABINET: Dr. Eusebio A. Morales, secretary of interior and justice; Narciso Garay, secretary of foreign relations; Aurelio Guardia, secretary of the treasury; Guillermo Andreve, secretary of public instruction, and Antonio Anguizola, secretary of fomento (promotion).—There are in the Province of Panama, according to recently compiled statistics of the National Government, 251,649 hectares (1 hectare = 2.47104 acres) of PRIVATELY OWNED LANDS. This property is valued at \$3,268,889, and pays an annual tax amounting to \$15,524. On the lands referred to there are 15,433 head of cattle and 1,341 head of horses, the total value of which is estimated at \$419,450. This stock pays annual taxes amounting to \$1,287.—On September 16 last the handsome and commodious edifice prepared by the National Government for the use of the department of POSTS AND TELEGRAPHS in the city of Panama, facing Cathedral Park, was opened to public service by the President of the Republic in the presence of the diplomatic and consular corps, high officials of the Government, and other distinguished persons. The dedication of this substantial and well-equipped edifice, the cost of which, in round numbers, was \$160,000, is one of the most useful and praiseworthy events of President Porras's administration. The building, which was originally bought from the Government of the United States, has been reconstructed in such a manner as not only to greatly improve its worth for the purpose desired but also to enhance its architectural beauty.—The National Institute of Panama, in commemoration of November 3, 1903, the beginning of Panaman independence, closed its annual competition in SCIENCE, LITERATURE, AND ART, and received for examination the papers and oil paintings presented by the different candidates. At the time of going to press the awards had not been made. The subjects of the

papers submitted were as follows: (1) A scientific monograph on any subject of national interest; (2) a patriotic poem; (3) development of the literature of the country; (4) a pedagogic essay; and (5) a musical composition. The values of the prizes vary from \$50 to \$20. A jury has been appointed by the department of public instruction to examine the different works and to award the prizes.

PARAGUAY

A recent executive decree appoints a central committee for the **DESTRUCTION OF LOCUSTS**. The chairman of the committee, whose headquarters is in Asuncion, is Dr. Evaristo Acosta, manager of the Agricultural Bank of the National Capital.—According to press reports Francisco Quiñones has been appointed **SECRETARY TO THE PRESIDENT** of the Republic.—On September 22, 1916, anniversary of the battle of Curupayty, there was unveiled with imposing ceremonies in Independence Square, city of Asuncion, a **BRONZE MONUMENT** wrought by the "Centro Estudiantil" (Students' Club) of the national capital and dedicated to the heroes of the war of independence.—The Paraguayan press announces the existence in the Republic of large deposits of **KAOLIN**, stating that samples of this substance analyzed by order of the Board of Trade of Asuncion gave exceedingly satisfactory results. Some of the leading papers of the country are recommending that the deposits be worked with Paraguayan capital, and an effort is being made to have local capitalists obtain possession of and exploit these deposits.—Statistics published by the Commercial Review of Asuncion show the following **STOCK CENSUS** in the Republic in 1915: Horned cattle, 5,249,043; sheep, 600,000; horses, 478,000; mules, 17,000; asses, 18,000; hogs, 61,000; and goats, 87,000, or a total of 6,510,043 head, as compared with 3,002,428 head in 1902. Among the cattle countries of South America which have a stock of horned cattle on hand ready for export, Paraguay occupies the second place with 11.8 head per square kilometer and 5,249 beeves for each 1,000 inhabitants of the Republic. The exports of cattle from 1910 to 1915, inclusive, were 199,151 head, of which number 44,509 were exported during the year 1915.—The bureau of statistics has just published the first part of its **ANNUAL FOR 1915** in a volume containing 200 pages. The subjects dealt with are vital statistics, weather reports, foreign commerce, finance, navigation, education, posts and telegraphs, benevolent institutions, municipal affairs, court statistics, stock raising, and other important data concerning the progress of the country during the past year.—According to a report of the board of directors to the stockholders of the **BANK OF THE REPUBLIC** covering the fiscal year 1915, the deposits of the institution at the close of the year amounted to 752,008 gold pesos (gold peso = \$0.9648), and 54,496,536 paper pesos. The profits during the period referred to aggregated 297,206 gold pesos, 80 per cent of which went to the stockholders as dividends, the remainder being credited to the reserve fund and other accounts. At a recent general meeting of the stockholders Mauricio Girard and Edmundo Tombeur were elected manager and assistant manager, respectively, of this bank.—

El Diario, a daily paper of Asuncion, states that it is quite probable that the present administration will undertake the COLONIZATION of the vast western zone of the Republic in order to carry the blessings of civilization and industry to thinly populated regions of the country and to the indigenous Indian tribes of that section who are still in a low scale of civilization but who are capable, under proper conditions, of rapid development. It is surmised that this work will be undertaken by the national army, inasmuch as other colonization projects established in this way in various parts of Paraguay have given excellent results. An English company, which is owner of large tracts of land in the Paraguayan Chaco, proposes to open them to agricultural exploitation, using the aborigines of the country for this purpose. The Chaco region, among other things, is especially adapted to the growing of subtropical products and is exceedingly rich in forestal wealth.

PERÚ

A law recently passed by Congress and ratified by the President places the LIMA TECHNICAL SCHOOL OF COMMERCE under the direct supervision of the Chamber of Commerce of Lima and provides for an annual subsidy to the school of 800 Peruvian pounds gold for five years, payable every six months in advance.—The President of the Republic has instituted a competitive contest for the submission of plans and designs, according to certain specified rules, for the front of the PALACE OF THE ARCHBISHOP OF LIMA, and has named a committee to study the plans submitted and to award a prize of 150 Peruvian pounds to the successful contestant. The building will be three stories in height and will be colonial in style.—The President has named Sr. Don José Manuel García Bedoya MINISTER OF GOBIERNO (department of home affairs).—The Senate has recently approved a law making compulsory ELEMENTARY MILITARY INSTRUCTION in the national colleges and public schools of the country.—The press of Lima announces that Sr. Julio Laredo has been appointed manager of the AMERICAN MERCANTILE BANK, recently established in Lima, and that the bank has had 50,000 Peruvian pounds gold coined at the National Mint.—On September 1, 1916, a municipal ordinance went into effect in Lima making the DECIMAL METRIC SYSTEM of weights and measures the only official one in the country. The daily press is very commendatory in its approval of the new law.—Congress has passed a law creating a NEW DISTRICT in the Province of Chinchá, Department of Ica. The new district will be called El Carmen and will have for its capital a town bearing the same name.—In view of the fact that article 46 of the constitution prescribes that there shall be a deputy and a substitute for every 30,000 inhabitants or fraction over 15,000, and as the census taken in 1908 showed that the PROVINCE OF LIMA had a population of 176,264, Congress has recently passed a law modifying that of February 9, 1863, and allowing the Province its full quota of six deputies and six substitutes.—According to the press, the public of Lima have been unanimous in their advocacy of the new ruling of the National Gov-

ernment in turning over the WATER SERVICE to the municipality of Lima.—The national steamers "TALISMAN" and "RIMAC," recently constructed, have entered the coastwise trade of Peru.—The Peruvian Government, to promote closer relations with its sister Republics, has sent Dr. Augusto Durand as ENVOY EXTRAORDINARY and MINISTER PLENIPOTENTIARY to Argentina and Uruguay, and in the near future will send a minister to the Government of Ecuador.—El Peruano, the official daily of Peru, published in its issue of August 29 an executive decree fixing the method of GUANO ANALYSIS proposed by the Guano Exploiting Co. and recommended by the School of Agriculture of Lima.—A law recently passed Congress providing for the deepening of the channel of the RIVER ICA, which traverses a rich agricultural section lacking in transportation facilities.—According to the last message of President Pardo, the PRODUCTION OF SUGAR in 1915 aggregated a total of 262,841 tons, against 228,055 tons in 1914, showing an increase of 34,786 tons in 1915.—The PRODUCTION OF ALCOHOL in 1915 was 10,121,005 liters, being 740,050 liters less than in 1914.—The number of MINING CLAIMS recorded in the registrar's office from July 1, 1915, to June 30, 1916, reached the number of 2,951.—During the year 1915 the TAX ON MINES produced a total of 51,385 Peruvian pounds.—A bill modifying the HABEAS CORPUS law, recently approved by the Senate of the Republic, is now before the Chamber of Deputies.

SALVADOR

Two important historical dates in the commercial development of Salvador were the introduction of the cultivation of coffee recommended in a legislative decree of March 9, 1847, and the opening of the Port of La Libertad authorized in a governmental decree of February 13, 1833. The area at present under cultivation in COFFEE is about 211,000 acres, and the annual value of coffee exports has reached as high as 7,907,715 pesos (peso = \$0.3537). The present crop is estimated at 750,000 quintals (quintal = 101 pounds), of which 600,000 quintals will be exported. A gain is already noted in the exportation of some ports over that of the preceding year. The port of Cutuco, which exported 50,000 bags of coffee last season, has already shipped this season 110,000 bags. The total yield of coffee in the year 1915 was 770,073 quintals, and by departments was in quintals as follows: Santa Ana, 122,880; Ahuachapan, 81,374; Sansonate, 55,734; La Libertad, 141,744; San Salvador, 24,801; Chalatenango, 887; Cuscatlan, 4,890; La Paz, 88,786; San Vicente, 7,530; Cabanas, 2,863; San Miguel, 48,617; Usulután, 180,710; Morazan, 44,047; and La Unión, 110.—A recent executive decree has been issued governing the collection of PUBLIC REVENUES and amplifying the rules and regulations as promulgated in the Law of June 19, 1916.—On September 30, 1916, the Ward Line inaugurated a monthly STEAMSHIP SERVICE from New York to San Francisco via the Panama Canal, touching at Acapulco both going and returning. The Wells Fargo Express Co. will be the agents for the Ward Line in Salvador.—The REVENUE RECEIPTS of the Republic

for the year 1915 showed a falling off of 1,887,210 pesos as compared with 1914. In the economic year 1915-16, for the first 11 months, the customs receipts showed a deficit of 793,286 pesos over the budget estimates, according to *la Revista Económica*.—On September 15 the President of the Republic and commander in chief of the army reviewed a **MILITARY PARADE** of 3,000 national troops at the Campo de Marte, San Salvador. By a recent ruling of the minister of public instruction, military training has been introduced into the primary and secondary schools of the country.—Seed of the **JÍCAMA**, a common vegetable tuber in Salvador, have recently been introduced into Honduras, where many agriculturists are now experimenting with it.—The new **ROADS BUREAU** recently created in Salvador has sent a large order abroad for the most modern machinery used in constructing roads and highways.—According to *La Prensa*, of San Salvador, the President of the Republic sent his representative to attend the **CORN CARNIVAL** held at Portsmouth, Ohio, September 27-30, in response to an invitation received by him from the committee in charge of the festival.—The minister of war has called for bids to be submitted on October 1, 1916, for the construction of a **NATIONAL POWDER MAGAZINE** and will shortly name a committee to pass on bids received.—A new reinforced concrete **MARKET BUILDING** is shortly to be constructed in the city of San Salvador at an estimated cost of 105,000 pesos.—A presidential decree of September 13 regulates the rates of the new **TELEPHONE SERVICE** of the capital city. The new tariff is very favorable to the public and shows considerable reduction over rates formerly charged.

URUGUAY

The President of the Republic, Dr. Feliciano Viera, has reorganized his **CABINET** as follows: Minister of the interior, Dr. Julio Muró; foreign relations, Dr. Baltasar Brum; treasury, Dr. Martín C. Martínez; public instruction, Dr. Emilio Barbaroux; industries, Dr. Juan José Amézaga; public works, Sr. Don Santiago Rivas; War and Navy, Sr. Joaquín C. Sánchez.—The President has named Sr. Don Felipe Suárez **DIRECTOR GENERAL OF INTERNAL REVENUE**.—According to press reports, the **INTERNATIONAL CATTLE AND AGRICULTURAL EXPOSITION** held at El Salto the middle of September last was one of the most interesting and successful in the history of the country. The exhibits of thoroughbred cattle were a notable feature of the show, and many were exhibited that had already received first premiums in other important shows and brought record prices when put up for sale. The Exposition was held under the auspices of the "Asociación Agropecuaria e Hípica" of El Salto, and was officially inaugurated in the name of the President of the Republic by Dr. Amézaga, Minister of Industries.—*El Día*, of Montevideo, announces that a **NEW DAILY** entitled *La Tarde* has begun to be published there under the management of Sres. Agustín Smith and Manuel M. Sánchez.—Foreign **STEAMERS AND SAILING VESSELS** to the number of 2,011, with a total

tonnage of 3,297,851 tons, entered and cleared from the port of Montevideo during the first six months of 1916, as compared with 2,321, with a total tonnage of 3,311,209 tons, in the corresponding period of 1915.—A recent presidential decree places the NATIONAL BUREAU OF LABOR, heretofore under the treasury department, under the jurisdiction of the department of industries, and the patent office and that of exchange and publications will in future be under the department of foreign relations. The office of civil registry will in future be under the department of public instruction.—In a decree of September 13, the President has intrusted Dr. Miguel Becerro de Bengoa with a special commission of visiting the European countries and studying there the most modern methods used for PREVENTION OF DISEASES that he may make a report of the result of his investigations to the sanitary authorities of the country.—A presidential decree removes temporarily the IMPORT DUTIES on alfalfa, maize, and bran.—An ORNAMENTAL FOUNTAIN was recently inaugurated in Independence Square in Montevideo, the design for which was awarded first prize in a contest in which many eminent sculptors, both foreign and national, participated. According to the press of the capital, the work is one of the best pieces of municipal art in the country and is the work of the sculptor Cordier.—The President of the Republic has asked authority from Congress for an issue of bonds to be entitled 1916 6½ per cent INTERNAL CONVERSION DEBT. The bonds would be issued to the amount of 13,500,000 pesos (peso = \$1.034) and would draw 6½ per cent annual interest. The proceeds from sale of these bonds would be used to cover the deficit of the 1915-16 budget and to cancel all other indebtedness of the Government and consolidate this indebtedness in one large loan at a reduced rate of interest. The press of Montevideo announces that the branch of the National City Bank of New York in that city has offered to buy up the whole issue from the Government, which gives a good idea of the credit enjoyed by the Uruguayan Government.—The French Minister in Montevideo has delivered to the President of the Republic, Dr. Feliciano Viera, the decoration of the Great Cross of the LEGION OF HONOR conferred on him by the President of the French Republic.—The ENGLISH CHAMBER OF COMMERCE of Montevideo has elected for the current fiscal year the following officials: President, Mr. C. W. Bayne; vice president, Mr. Thos. F. Lane; treasurer, Mr. C. W. Dreyer; secretary, Mr. A. B. Drayton.—According to advices received from Alfredo R. Campos and Roman Barro, of the national capital, the Society of Architects of Montevideo has selected the executive committee of the FIRST AMERICAN CONGRESS OF ARCHITECTS to be held in that city. The date of the meeting of the congress, at the time of going to press, had not been communicated to the MONTHLY BULLETIN.

VENEZUELA

A recent presidential decree prescribes that the MONUMENT OF THE LIBERATOR, SIMÓN BOLÍVAR, which the Government of Venezuela will present to the City of New York, shall bear the follow-

ing inscriptions: On the upper front of monument: "Simón Bolívar: The Liberator." On the lower front of monument: "Venezuela to the City of New York." On the right side: "Liberator of Venezuela, New Granada, Ecuador and Peru, and Founder of Bolivia." On the left side: "Born in Caracas, July 24, 1783—Died in Santa Marta, December 17, 1830." This monument will be erected on "Bolivar Hill" in Central Park, New York City.—Decrees of the chief executive and governor of the Federal District declare the death in Caracas on September 1 of Dr. Felipe Guevara Rojas, minister of public instruction, an occasion for **OFFICIAL MOURNING**.—Two recent rulings of the department of fomento (promotion) and the treasury department reduce import duties and grant freedom from taxation for exploiting **CRUDE PETROLEUM AND OTHER MINERAL OILS** in the Republic. These new measures will make it possible for industrial enterprises to use petroleum exclusively as a combustible for producing motor power and for replacing in some instances electric power.—According to statistics furnished by the department of **VITAL STATISTICS** in 1915, there were 63,133 deaths in the Republic. Some of the diseases that produce annually more than 1,000 deaths are: Malarial fever, dysentery, consumption, pneumonia, infantile tetanus, heart disease, hookworm disease, and typhoid fever. Some diseases producing annually more than 500 deaths are: Acute bronchitis, gripe, meningitis, softening of brain, and senile decay. The greatest number of deaths occurred in the month of July and the smallest number in February.—The Official Gazette of September 8 publishes the full text of the decree regulating **PEARL FISHING** in the seas of the Republic.—The President has named Gen. Tobías Uribe **DIRECTOR GENERAL OF POSTS AND TELEGRAPHS**, and Gen. Pedro M. Guerra, director general of mails.—During the year 1915, 9,818 **TRAVELERS** from overseas entered the Republic of Venezuela through its national ports, La Guaira, Cristóbal Colón, San Antonio, and Maracaibo recording the greatest number of entrances in the order named.—The Official Gazette of August 31 published laws on 16 **MINING** titles recently granted by the Government. The titles are for 15 gold mines, 1 copper mine, and 1 chromate of iron mine. This increase in the issuance of mining titles shows the development being made in the mining industry of the country.—The whole edition of the Official Gazette of August 31 was devoted to giving the full text of the **NEW CIVIL CODE** recently passed by Congress and promulgated by the President.—A recent executive decree provides for the construction of the **GREAT WESTERN HIGHWAY OF VENEZUELA** from Caracas to San Cristóbal, traversing the States of Miranda, Aragua, Carabobo, Cojedes, Portuguesa, Zamora, and Táchira.—Work has begun on the construction of the new **HIPPODROME** in Caracas, which will be located on the site of the old slaughterhouse and will be one of the most beautiful buildings in the capital. It will have a seating capacity of 12,000 persons and the building will contain special apartments for cafés, dance halls, target shooting, etc.—The president of the State of Zulia has issued a decree providing for the construction of a **HIGHWAY** between Altamira and Guaraguara, which will connect more closely the two important States of Falcon and Zulia.



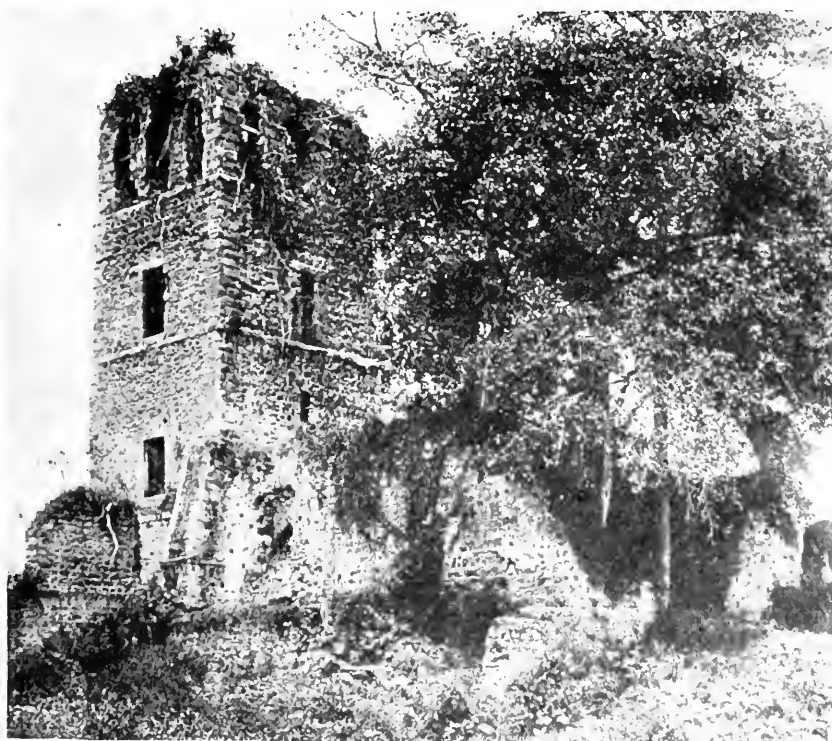
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JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁNES, ASSISTANT DIRECTOR.



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Office of Legation, Hotel Gordon, Washington, D. C.
Panama.....Señor Dr. BELISARIO PORRAS,
Office of Legation, 1019 Sixteenth Street, Washington, D. C.
Paraguay.....Señor Dr. HÉCTOR VELÁZQUEZ,¹
Office of Legation, 1678 Woolworth Building, New York City.
Salvador.....Señor Dr. RAFAEL ZALDIVAR,
Office of Legation, 1800 Connecticut Avenue, Washington, D. C.
Uruguay.....Señor Dr. CARLOS M. DE PENA,
Office of Legation, 1734 N Street, Washington, D. C.
Venezuela.....Señor Dr. SANTOS A. DOMINICI,
Office of Legation, 1406 Massachusetts Avenue, Washington, D. C.

CHARGÉS D'AFFAIRES

Chile.....Señor Don GUSTAVO MUNIZAGA VARELA,
Office of Embassy, 1424 K Street, Washington, D. C.
Nicaragua.....Señor Dr. JOAQUÍN CUADRA ZAVALA,
Office of Legation, "The Portland," Washington, D. C.
Peru.....Señor Don M. DE FREYRE Y SANTANDER,
Office of Legation, 1737 H Street, Washington, D. C.

¹Absent.

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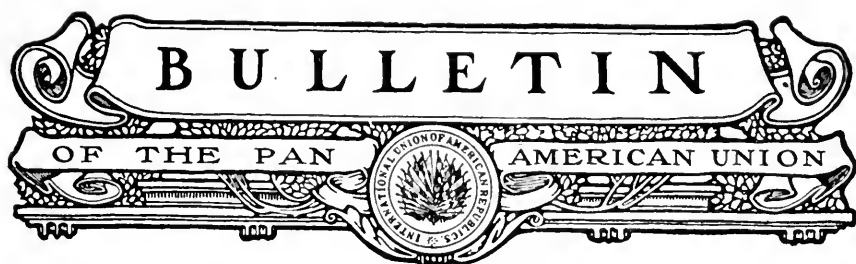


PRESIDENT AND VICE PRESIDENT OF ARGENTINA AND CABINET.

Dr. Ramon Gómez, Minister of Interior.
 Dr. Domingo Salaberry, Minister of Finance.
 Dr. Honorio Pueyrredón, Minister of Agriculture.
 Dr. Elpidio González, Minister of War.

Dr. Hipolito Irigoyen, President.
 Dr. Pelagio Luna, Vice President.

Dr. Carlos A. Becú, Minister of Foreign Affairs and Worship.
 Dr. José S. Salinas, Minister of Justice and Public Instruction.
 Dr. Pablo Torello, Minister of Public Works.
 Dr. Federico Alvarez de Toledo, Minister of Marine.



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No. 6

OBSERVATIONS ON URUGUAY'S PLAINS¹

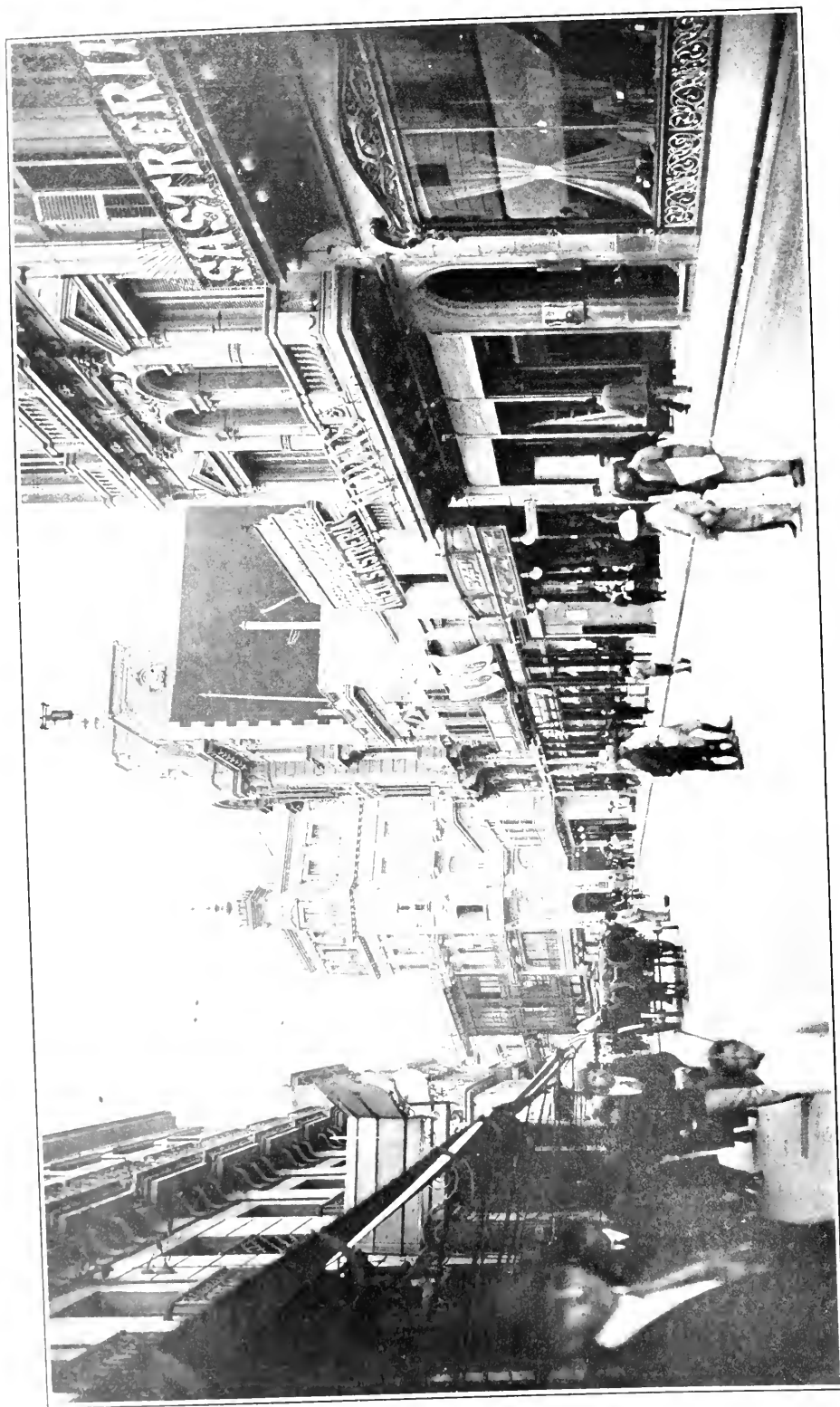
“THE President will receive the representative of the Pan American Union at 4 p. m.” was the message in substance that came by courier from the Government offices in Montevideo. His Excellency President Viera had just returned from an official visit to his fellow citizens in various parts of the Republic, and the writer was preparing to cover practically the same regions for the purpose of collecting first-hand information regarding Uruguay's progressive march among the nations of South America.

No doubt President Viera felt a paternal interest in assisting the work of the international organization at Washington, which his country helps to maintain, and to its agent he graciously accorded a private audience.

Uruguay's presidential palace is a massive structure with a series of imposing columns facing the beautiful Plaza Independencia, near the heart of the capital city. A military aid conveys the stranger to the reception room of the President. On the present occasion the breezes of springtime made the outside air cool and crisp, but within the private quarters of the Chief Executive a fire burned brightly and the cordial handshake suggested a double-warmth of greeting.

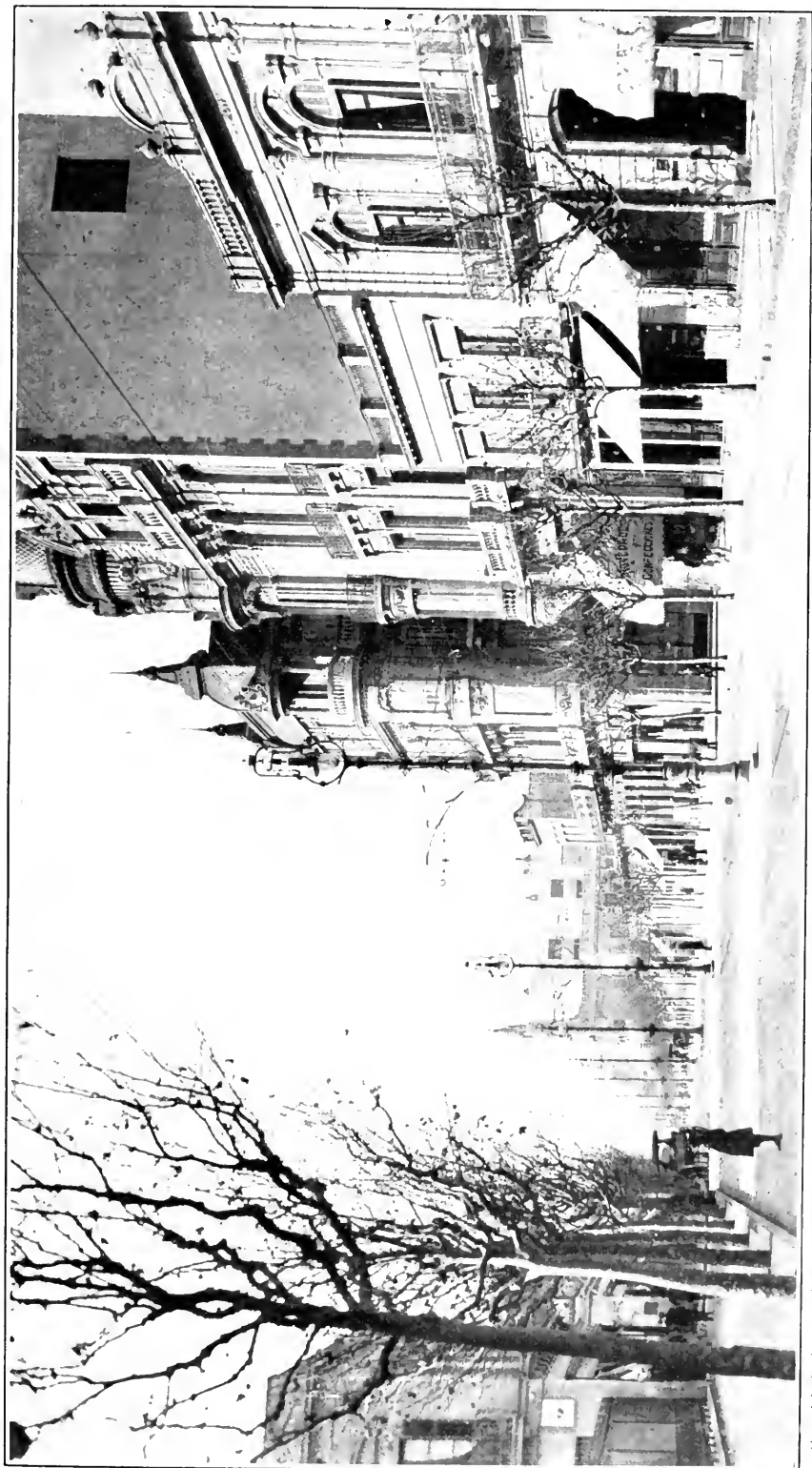
President Viera is a large and busy man; he immediately inspires confidence and impresses one with sincerity and businesslike methods: system is apparent on all sides; he spoke enthusiastically and listened intently, and I was glad indeed of the privilege of conversing with the ruler of a country that supplies such vast quantities of food and clothing materials to the world at large.

¹By William A. Reid, Pan American Union staff.



A BUSINESS STREET IN MONTEVIDEO, URUGUAY.

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AVENIDA DE MAYO, MONTEVIDEO, URUGUAY.

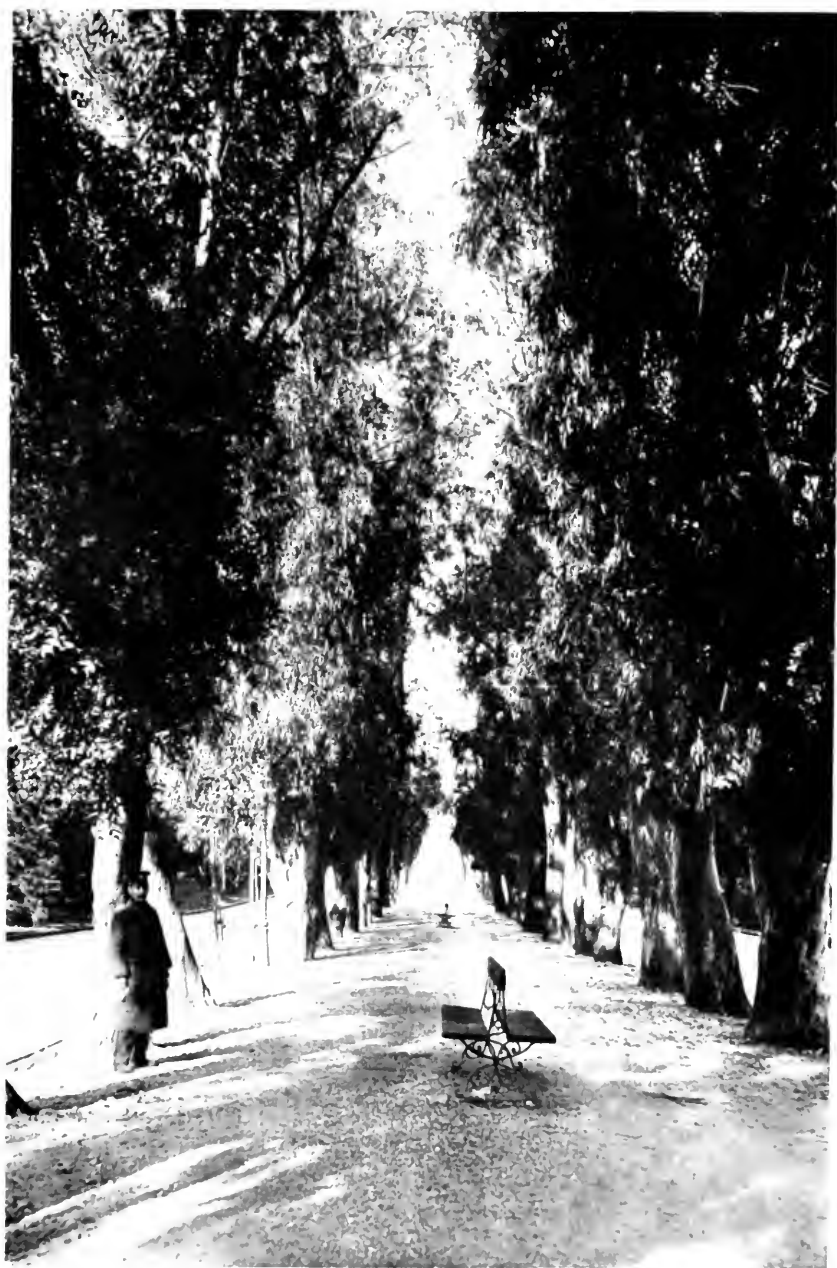
Explaining my mission, President Viera responded approvingly, saying among other things that officials along the route through the interior would be instructed to aid and assist in every possible way. He also spoke of domestic business activities and mentioned the fact that Uruguay was placing contracts with United States firms involving millions of dollars. He expressed satisfaction that Uruguay's products had won a number of premiums in competition with those of many lands at the San Francisco Exposition, and otherwise evinced interest in developing closer ties of business and friendship with the people of the United States.

Facilities for comparing pastoral and agricultural activities with those I observed on previous visits to Uruguay were not lacking, and a few of them are mentioned herein for the benefit of the reader who may be interested in Uruguayan progress. Uruguay is small and wealthy; and if the word "intensive" may be applied to its pastoral activity as it is in some of the world's thickly settled agricultural countries like Japan or Denmark, the Uruguayan Republic is not disappointing. Indeed, as the stranger travels over the undulating plains the sight of such vast numbers of live stock in every direction is really astonishing. Within the bounds of the country, an area slightly larger than the five New England States of North America, the people have raised and gathered something like 35,000,000 domestic animals. The products derived from this vast herd, together with the growing agricultural development, enabled the country to send to other lands last year more than \$76,000,000 worth of food and clothing materials.

The per capita distribution of money in Uruguay is given at about \$25, or twice that of Roumania, twice that of Greece, more than three times that of Russia, five times that of Japan, or about the same as that of Belgium before the present troubles.

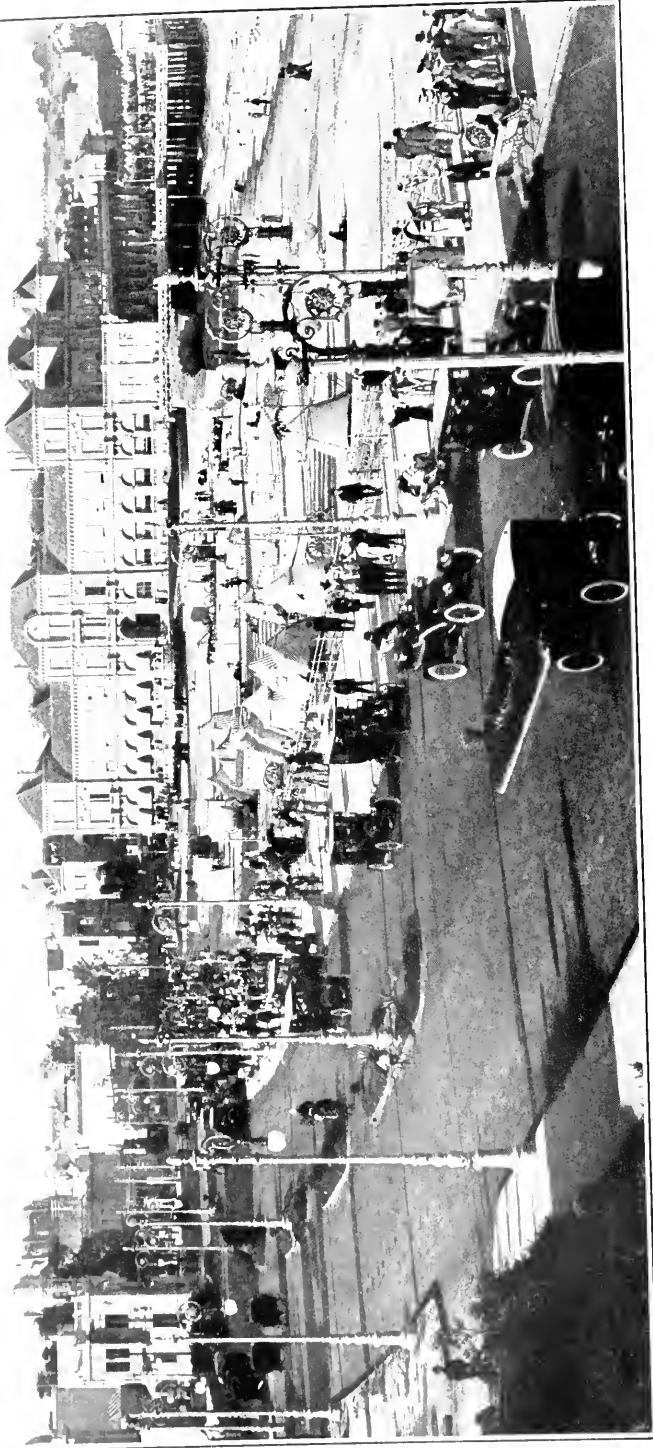
Prior to leaving Montevideo for smaller cities and towns of the interior I had the privilege of attending the annual examination of teachers of Uruguayan schools. The teachers had been assembled from various parts of the country and were soon to depart to reopen their respective places of learning. "We have over 1,000 schools and nearly 100,000 pupils," said one official of the bureau of education, "and the men and women instructors you see here are fair representatives of our faithful workers all over the Republic. There is more money spent on public education than on any department of the Government excepting that of building a merchant marine."

Among the most practical lines of training is that of teaching the industrial arts and trades, which courses are open to both men and women. Commercial education is also now receiving much more attention than in past years, and in the National School of Commerce in Montevideo, a four-year course leads to the degree of "commercial expert," which includes studies in finance, accountancy, languages,



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URBANO PARK, MONTEVIDEO.



POCITOS, NEAR MONTEVIDEO.

This attractive resort with its constantly moving crowds reminds one of New England seaside pleasure towns in midsummer. Motor cars, amusement houses, restaurants, motion-picture theaters, and bathing facilities, all combine to furnish a variety of entertainment.

political economy, and various other practical subjects. Attached to this school is a museum of exhibits of many manufactured articles of different countries, including some from the United States.

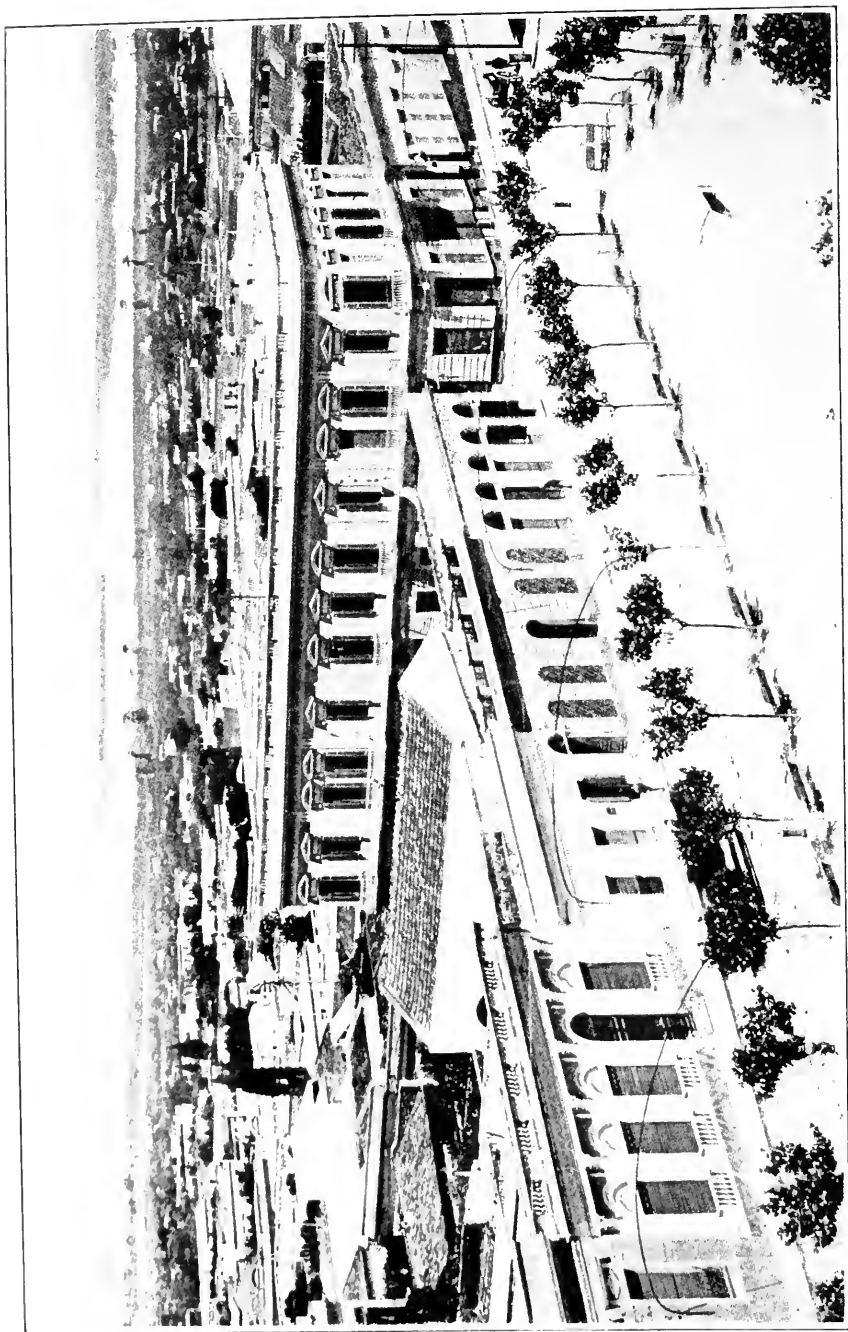
Uruguay being essentially a land of stock raising, has allowed agricultural possibilities to suffer until within recent years, and probably no factor in the latter's development is accomplishing better results for the country than the Government's agricultural farm, La Estanzuela, located 140 miles northwest of Montevideo in the Department of Colonia. This farm contains over 1,000 acres and the experiments conducted there include trials of all crops that seem suited to the soil and climate of Uruguay.

The agricultural influence and training of Uruguay's young men are of course more particularly noted when one visits the rural districts. One division of the agricultural farm conducts experiments in agronomic science; and the growing of seeds for sale or otherwise is gradually placing new varieties at the service of the farmer. For instance, the distribution of 40,000 bushels of seed wheat in 1915 to 1,300 planters on easy credit terms is showing pleasing returns in agricultural production. The wheat distributed was of improved varieties and was thoroughly cleaned by machinery before being placed in the hands of the farmers. In addition to seed wheat the Government distributed nearly 4,000 bushels of other selected seeds.

In northwestern Uruguay, in the Provinces of Paysandu, Salto, Artigas, etc., I was surprised to see vast areas covered with growing fruits. More than 2,000 acres, I was informed, are under viticulture. In a single year there were gathered 25,000 tons of grapes. Orange groves also cover thousands of acres and the product is rapidly growing in favor throughout the country.

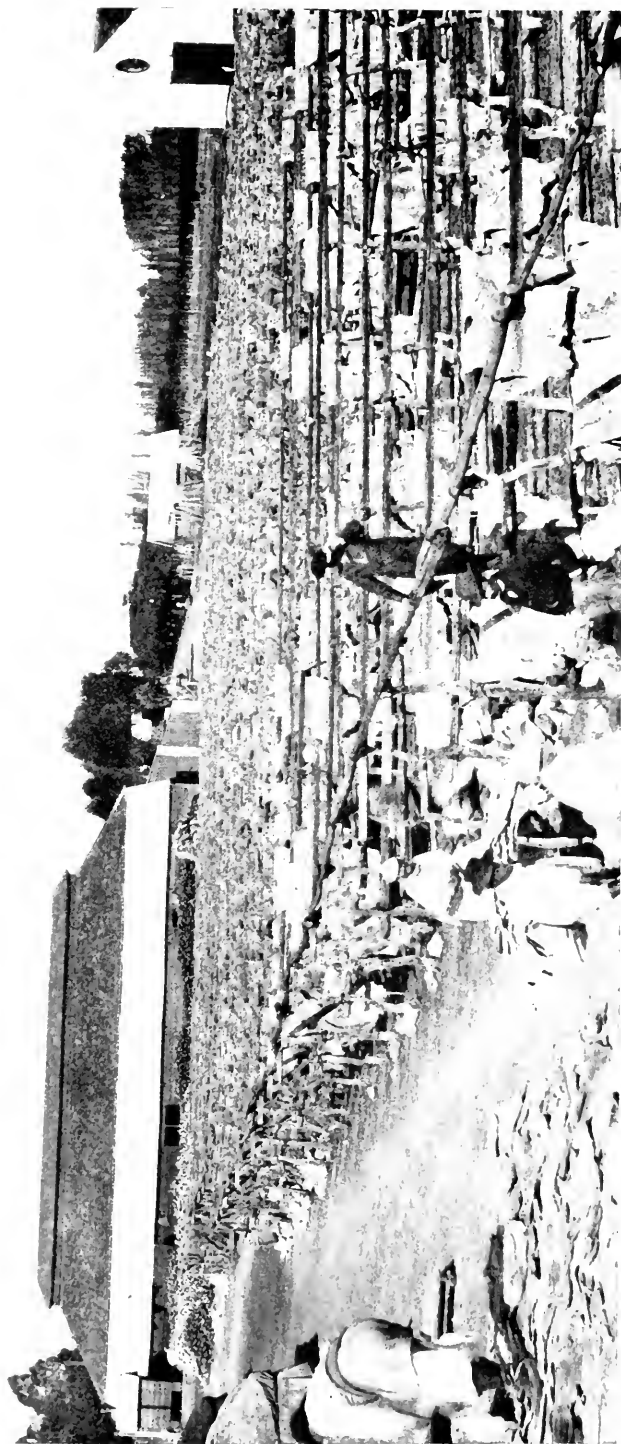
The sheep that one meets in traveling across Uruguay are amazing in number. Often the hills within a radius of miles are covered with grazing herds—they seem to fill every hill and valley. In fact the sheep statistics show that there are 27,000,000 within the bounds of the country, or nearly 27 sheep and lambs for every inhabitant. In 1915 the value of wool from this vast flock brought over \$20,000,000 thereby returning approximately \$20 for each person in the Republic.

In rural Uruguay the crossroads store possesses a pleasing interest for the foreign traveler. The usual building is a modified type of the wall and patio structure, the whole of course covering much more ground than the average city house. A central opening is large enough to admit horses and wagon and the vehicle can easily be turned around in the patios of some of these rural stores; the materials of which the buildings are constructed are often stone and stucco, and the smooth outside is coated with a cheap bright-colored blue or other paint of pronounced color. A few trees, hitching posts, a score of cowboys horses and a tented wagon or two are usually in evidence. To give animation to the scene there are numerous



GENERAL VIEW OF PAYSANDÚ.

This city is located on the Uruguay River at the head of ocean-going navigation. It has 25,000 population, and is the second city of the Republic in importance. Ocean ships dock at its wharves. Extensive improvements are now in progress.



SCENE NEAR PAYSANDU.

This establishment is typical of others in various parts of the Republic. They are called "Saladeros," and each year more than half a million hides are dried by this open-air method.

gauchos, or cowboys, sitting in groups or walking about the little settlement. These splendid horsemen of the plains when mounted are usually in a gallop and they cover miles without apparently exhausting their steeds.

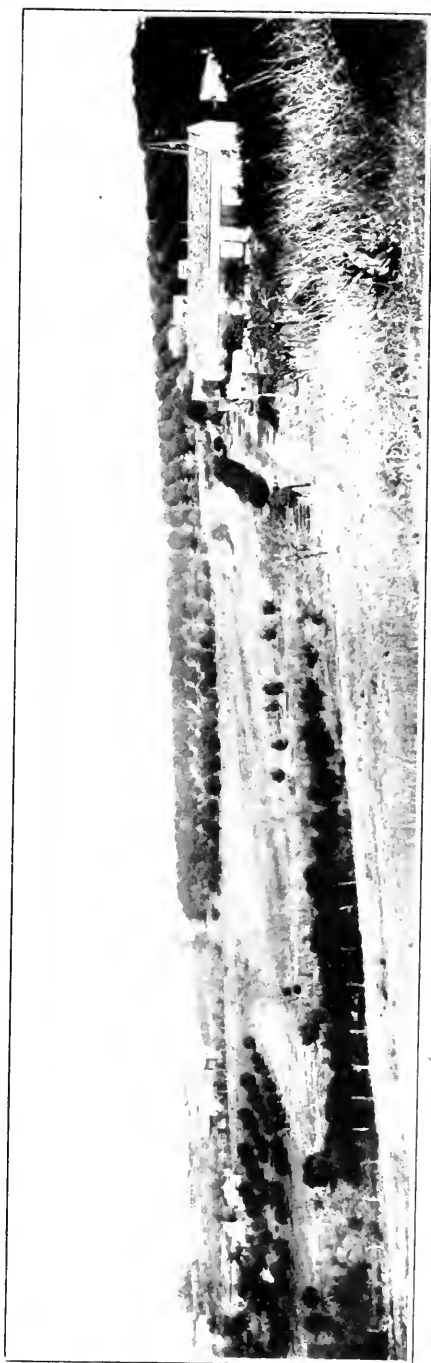
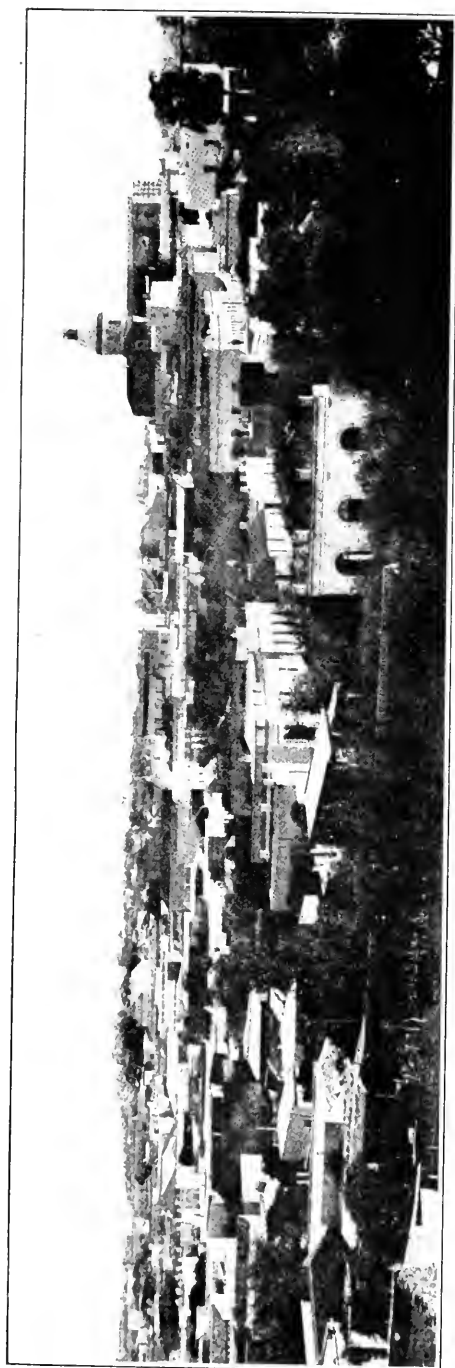
The dress of the Uruguayan cowboy at once attracts the stranger. Here is a description of one of the many costumes worn by these plainsmen as I saw them gallop into Paysandu: it is typical of the costume donned for special occasions or fiestas: The trousers are a bright yellow, very baggy, of dimensions the stranger would consider three sizes too large for the wearer. Boots reach to the knees, a broad red belt, a soft shirt of gray, red handkerchief tied loosely about the neck, broad-brimmed yellow felt hat turned up in front from long riding against the wind, heavy spurs that clink at every step or that at times drive the steed forward at lightning speed. Truly, a picturesque figure of physical fitness for any task in the care and management of the "hoofs and horns upon the hills."

Other features of rural progress noted in various regions of the Republic are the unusually wide reservations made for highways. Wire fencing is becoming common, and in many cases it incloses a roadway recently opened and which will eventually be improved and made usable even during the season of heavy rains. To-day such dirt roads are several times wider than the average highway in the United States, and the evident reason seems to be that many old time Uruguayan carts are still pulled along these roads by long strings of oxen; when the roads are muddy the team winds from side to side, requiring considerable space.

As a complement to these new outlines of future highways, and to many miles of completed roads upon which large sums have been expended, is the modern steel bridge. In past years the wagon team traveling toward Uruguayan markets was forced to ford watercourses that lay across the route; to-day in numerous cases a substantial bridge spans the stream and thereby greatly facilitates all kinds of travel.

Still another feature of progress is the automobile, which is fast becoming a common and necessary vehicle even on the far-off ranch. The new bridges and increased attention to road building are, of course, having a stimulating effect on motor transportation and on cross-country automobile racing, the latter a pastime that has grown into favor during recent years. The Federal appropriation for the fiscal year of \$300,000 for highway construction and the improvement of existing roads, which is typical of former large appropriations for similar purposes, will add many more leagues to Uruguay's gradually increasing highway mileage.

The visit to Uruguay is not complete unless one has inspected the activities at Fray Bentos on the Uruguay River. This is the nation's greatest workshop, for in the meat-packing plants located



URUGUAYAN SCENES.

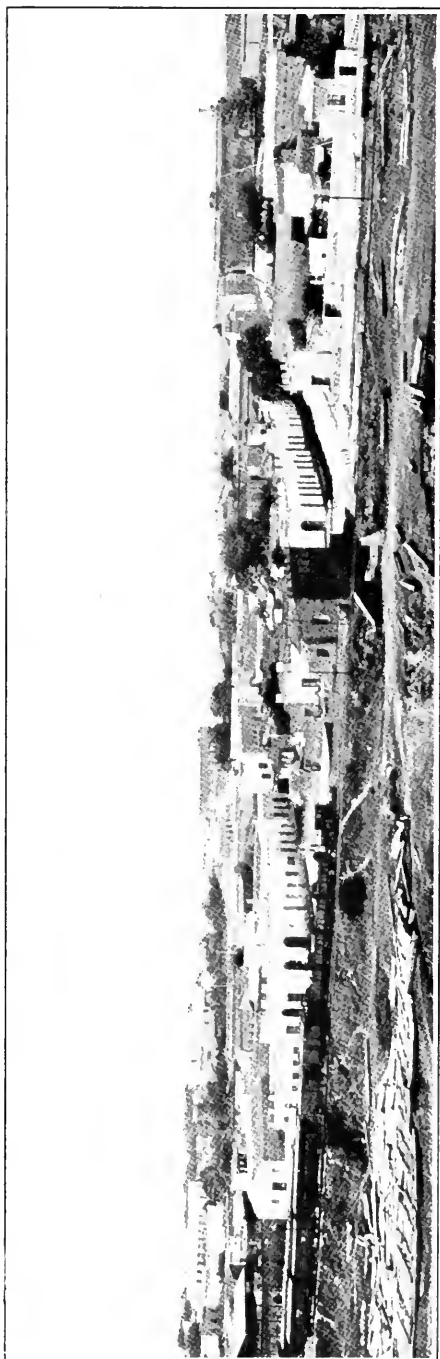
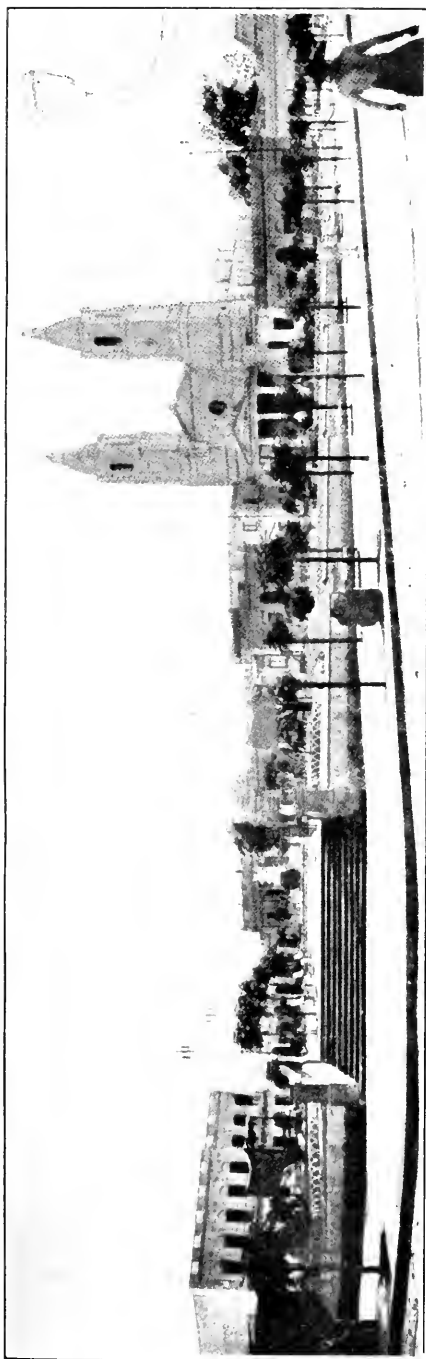
Upper: General view of Mercedes, capital of the I department of Soriano. This central city has about 25,000 population and is undergoing many improvements, being one of the places included in the large contracts for waterworks and sewerage systems given United States firms. Lower: One of the numerous orange groves in the vicinity of Salto. Fruit growing in this region of Uruguay has enormously developed within a few years.

there approximately 2,500 cattle in normal times are turned into extracts daily. By reason of this enormous industry Uruguay claims "the greatest kitchen in the world," and those of us who have visited the enormous plants are not inclined to question the assertion.

In 1915 Uruguay passed a law limiting the working day to 8 hours and early in the present year it became effective. This new law is sweeping in its provisions and applies to workmen in shops, quarries, lumber yards, factories, wharves, etc.; to employees of steam and electric railways, stores, servants in commercial and industrial establishments, and in fact, to all persons engaged in work more or less related to the lines named. It also includes government employees. In extreme cases, however, adults may work longer during single days, but must be employed not to exceed 48 hours for each six days labor. Provisions were also enacted at the same time for punishing those who break the law; and for the first offense the employer will be fined \$10, and for the second offense the amount is placed at \$15. Where workmen themselves break the law, they shall be fined the same amount received for the excess labor. Twenty-five inspectors stationed in the various trade centers of the country are enforcing the new law.

A study of Uruguay's commercial activity furnishes illustrations of the work of statesmen and public-spirited citizens in conserving certain natural elements for possible future use. As a case in point, there is the law prohibiting the exportation of metals; not that the owners of mineral lands do not wish to exploit their properties, but that the possible needs of the people as a whole may require all of the country's minerals for domestic consumption. Uruguay being pastoral and agricultural, the deposits of the mineral kingdom are limited, hence the efforts at conservation. This law, it is said, was championed by the Manufacturers' Association, a leading trade organization which has already accomplished important results, especially in the field of manufacturing.

Speaking of the important commercial artery, the Uruguay River, reminds us of the work of the United States contracting company referred to in the interview with President Viera. Mercedes, Paysandu, and Salto are the cities affected by the contract, which calls for waterworks, sewerage systems, and other modern improvements. The latter two cities are situated directly on this river, while Mercedes is near by on a smaller stream. The corporations taking up this work purchased a ship or two and were able to transport materials to the desired localities without transshipment, and also without the annoying delay largely prevailing at present on account of lack of shipping facilities. Ample capital and natural fluvial arteries, therefore, materially aided in these upbuilding enterprises; and they illustrate a



TWO VIEWS OF SALTO.

This city of 25,000 people is the capital of the Department of the same name, and is located 375 miles northwest of Montevideo. The upper picture shows part of Plaza Treinta y Tres; lower is that of a commercial section near the River Uruguay.

principle applicable to numerous other latent possibilities that Uruguay presents to financiers.

The people of Uruguay form a cosmopolitan population, and in recent years immigration has gradually added to their number. More than 62,000 Italians, 27,000 Brazilians, 18,000 Argentines, 8,000 French, and a thousand each of Swiss, English, Germans, and North Americans have arrived within the borders of Uruguay to find homes and to enter the varied lines of business activity typical of the country.

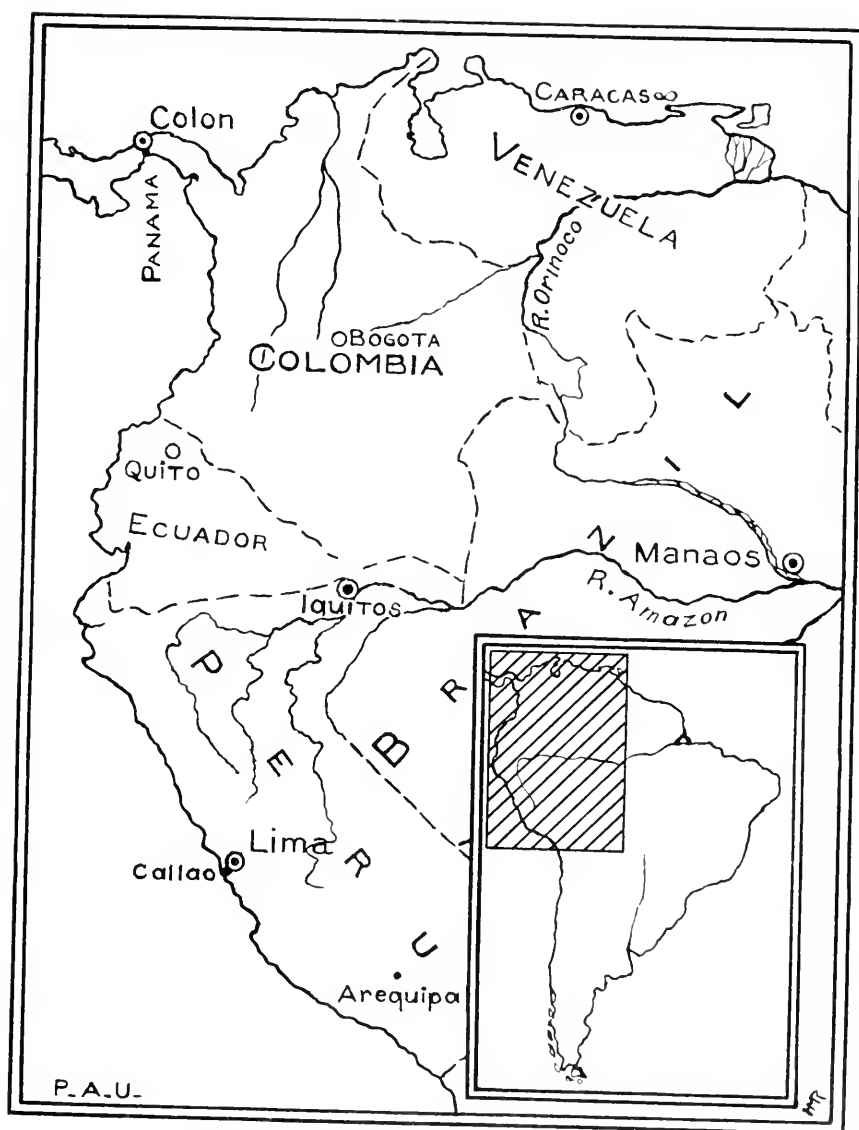
The citizens of Montevideo must be numbered among the best dressed people to be found in South America; they are hospitable and many are charming, while the fame of the beauty of the ladies has spread afar. These features of Montevideo's attractions are nowhere more noticeable than during a performance at one of the theaters, when the talent of European opera draws forth aristocratic and wealthy residents of the city and surrounding suburbs. Again on summer days and evenings the stranger will be delighted to visit some of the pleasure resorts, like Pocitos, Ramirez, and others, where the Uruguayan rests from his labors and with his family enjoys life to the fullest.

IQUITOS--PERU'S IMPOR- TANT RUBBER CENTER¹

ONE would scarcely consider a place 2,350 miles inland a seaport; and yet Iquitos, the only eastern outlet for Peru, near the confluence of the many rivers which form the Amazon, is visited regularly by large, ocean-going vessels.

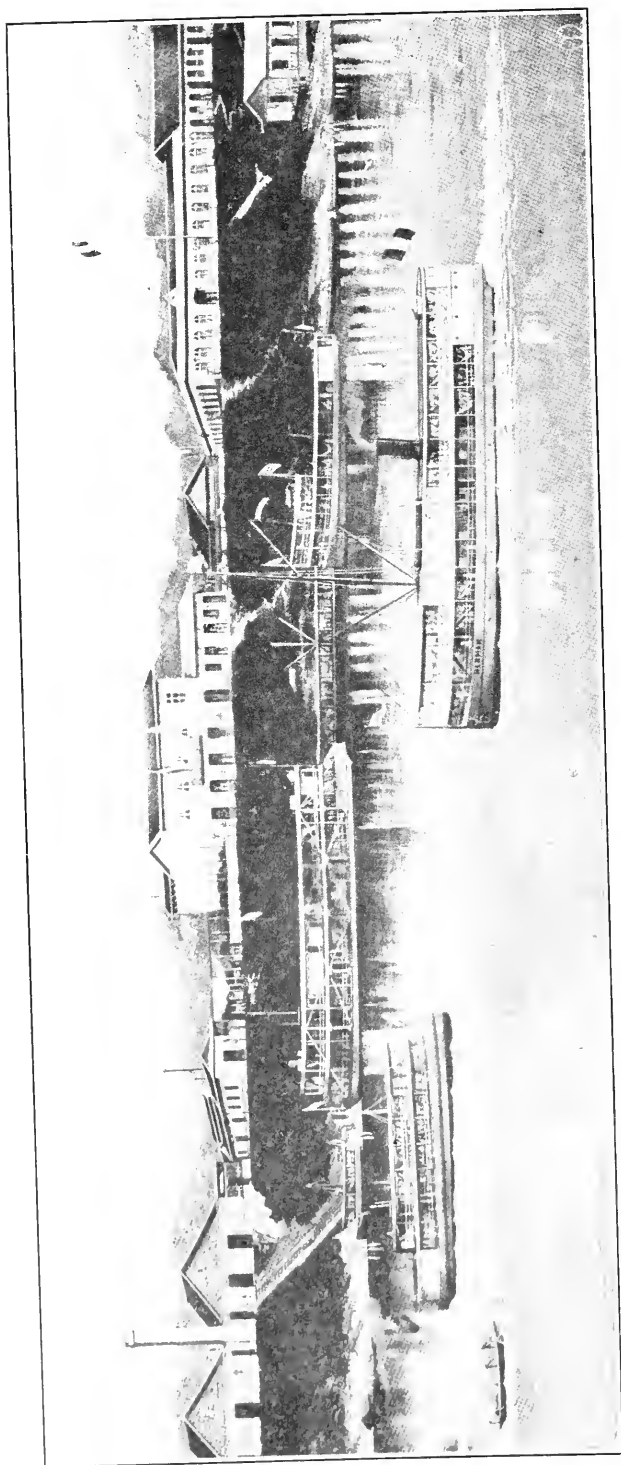
The two weeks journey upriver, from Para at the mouth, is rather monotonous; there is little to see on either bank except low, swampy jungles, save a few important places, such as the city of Manaos, Santarem, Boa Vista, and some others, where the land is comparatively high until one reaches his destination, which is only 328 feet above sea level. At last he steps out on the large, half-million dollar floating wharf of the Booth Co.; and then comes the big surprise, for Iquitos is not at all the rough, frontier Amazon city one sometimes reads about. Writers of such articles can not have known the place well, or have not seen it of late years; for there is much of comfort, beauty, and substance in this the capital of the great Province of Loreto, which occupies nearly the whole of Peru east of the Andes, and contains more than 280,000 square miles, or as much as three or four of our States put together.

¹ By Samuel E. Bayless, C. E.



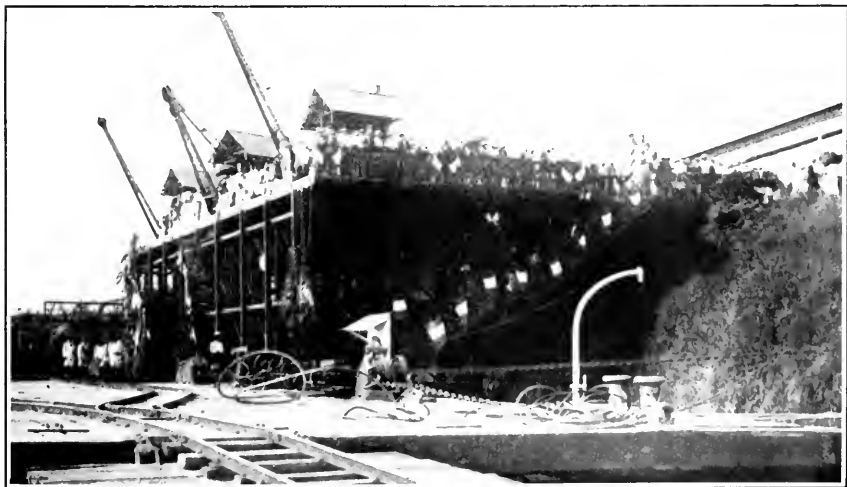
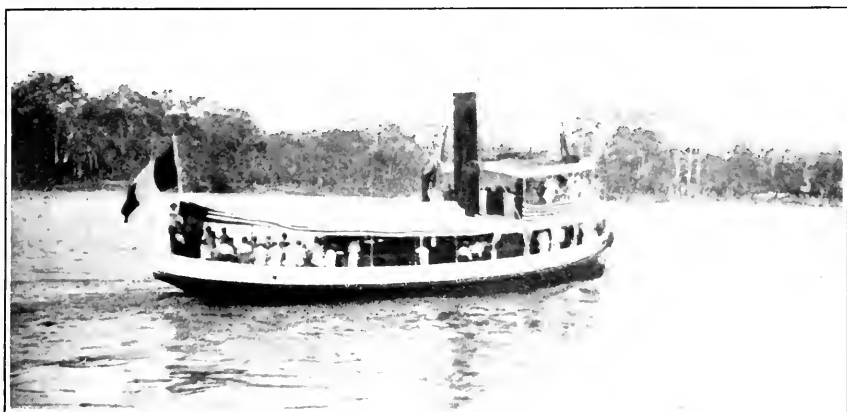
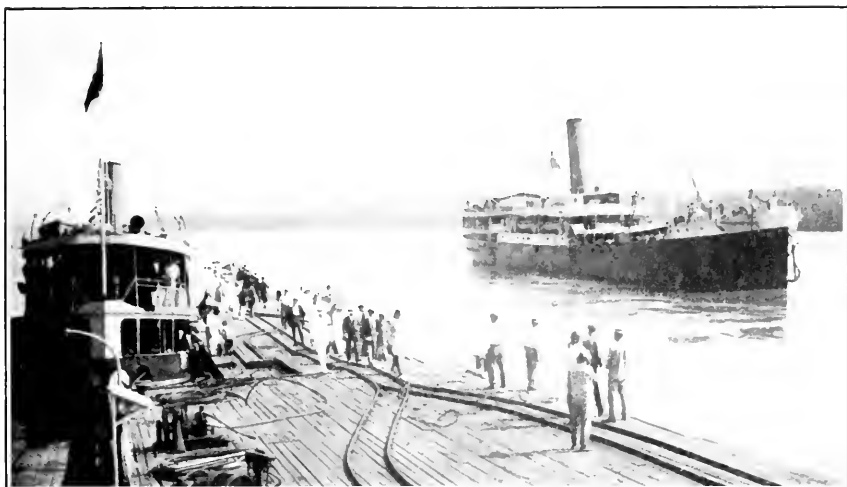
MAP SHOWING LOCATION OF IQUITOS, PERU.

Iquitos, the capital and principal city of the Peruvian Department of Loreto, is about 2,350 miles up the Amazon River from the Atlantic Ocean, and notwithstanding its great distance inland is a very important seaport. Ocean steamers ply regularly between Iquitos and European ports and also to New York. The population of the city varies from about 12,000 or 15,000 during the dry season, when the rubber gatherers are all out in the forests, to as many as 30,000, when the rainy season has driven the workers back to their headquarters. The climate is warm and moist, the average temperature being from 80° to 88° F., sometimes running as high as 95° F. in the shade during the hottest season. The nights are generally cool and pleasant, while rains are frequent and abundant, aggregating 60 to 75 inches in a year.



RIVER CRAFT AT IQUITOS, PERU.

The total trade of the river systems which are commercially tributary to Iquitos is estimated at \$20,000,000 a year. The river systems may be divided into two groups—those lying north of and flowing south to the Amazon, and those to the south flowing north to join that great stream. The former group includes the Caqueta (or Yapura), the Putumayo (or Ica), the Napo, the Tigre, and others of less importance commercially; the latter group embraces the Javari, the Ucayali with its affluents, the Sepalluni, Tapiche, Huallaga, and the Marañon. The leading products of the section are rubber, fagua (vegetable ivory), hides, Panama hats, and cotton.



RIVER VIEWS AT IQUITOS, PERU.

Top: The cabotaje stage, or dock for river steamers and vessels not engaged in foreign commerce. Center: River transportation in this district is by steam launches—such as that shown above—and light-draft river steamers. These craft belong to mercantile firms, which use them for river trading, but they also handle cargo and passengers as common carriers. Bottom: The floating mole, of special construction on account of the rise and fall of the river, built by the Booth Co., and enlarged and improved in 1911 at a cost of \$500,000, so that at present ships and launches can discharge and load rapidly and conveniently by means of its modern equipment.

The city is comparatively new, being scarcely a third of a century from the jungle stage, and owes its growth and prosperity to the ever-increasing demand for rubber. In fact, it is one of the great rubber ports of the world. The first thing a person naturally notices is the buildings in the business section. These are the city hall, a commodious and well-built structure, as is also the *prefectura*, or state-house; Masonic hall—the lodge has quite a large membership among Iquiteños and foreigners; various storehouses; two very large barracks for the soldiers; provincial prison; and the splendid new hotel, the Malecon Palace, of reinforced concrete, a handsomely decorated, three-story edifice, having all modern improvements and conveniences, which was built at a cost of \$250,000 by Sr. Otoniel Vela, a public-spirited and very wealthy gentleman. This hotel is on the street facing the river, and has its own drainage system directly into the stream.

With the exception of a few palm-thatched houses on the edge of town, the residences, too, are of brick and concrete, with tile or galvanized-iron roofs. Most of them are Brazilian in style. That is, one room clear across the whole front of the lot, or *solar*, flush with the street; and back of that two rows of rooms, one on either side of the *patio*, or courtyard, which opens into the front room. All the rooms are large and airy. The fronts of some of the houses are beautifully decorated with colored French tiles, and the interiors are up to date in all their appurtenances.

All the buildings, both public and private, are exceptionally good, far better than their counterparts in many other places of equal size in northern South America, Mexico, and Central America.

The number of inhabitants of the city varies, from 30,000 during the high-water period to 18,000—it may drop to 12,000—in the dry season, when the rubber gatherers are out.

Being the capital, the local assembly, or *consejo provincial*, meets here, as well as the superior and minor courts. The *prefect*, or governor, is appointed by the authorities in Lima; but the *alcalde*, or mayor, is elected; and he and the members of his council may be, some usually are, foreigners—merchants, as a rule.

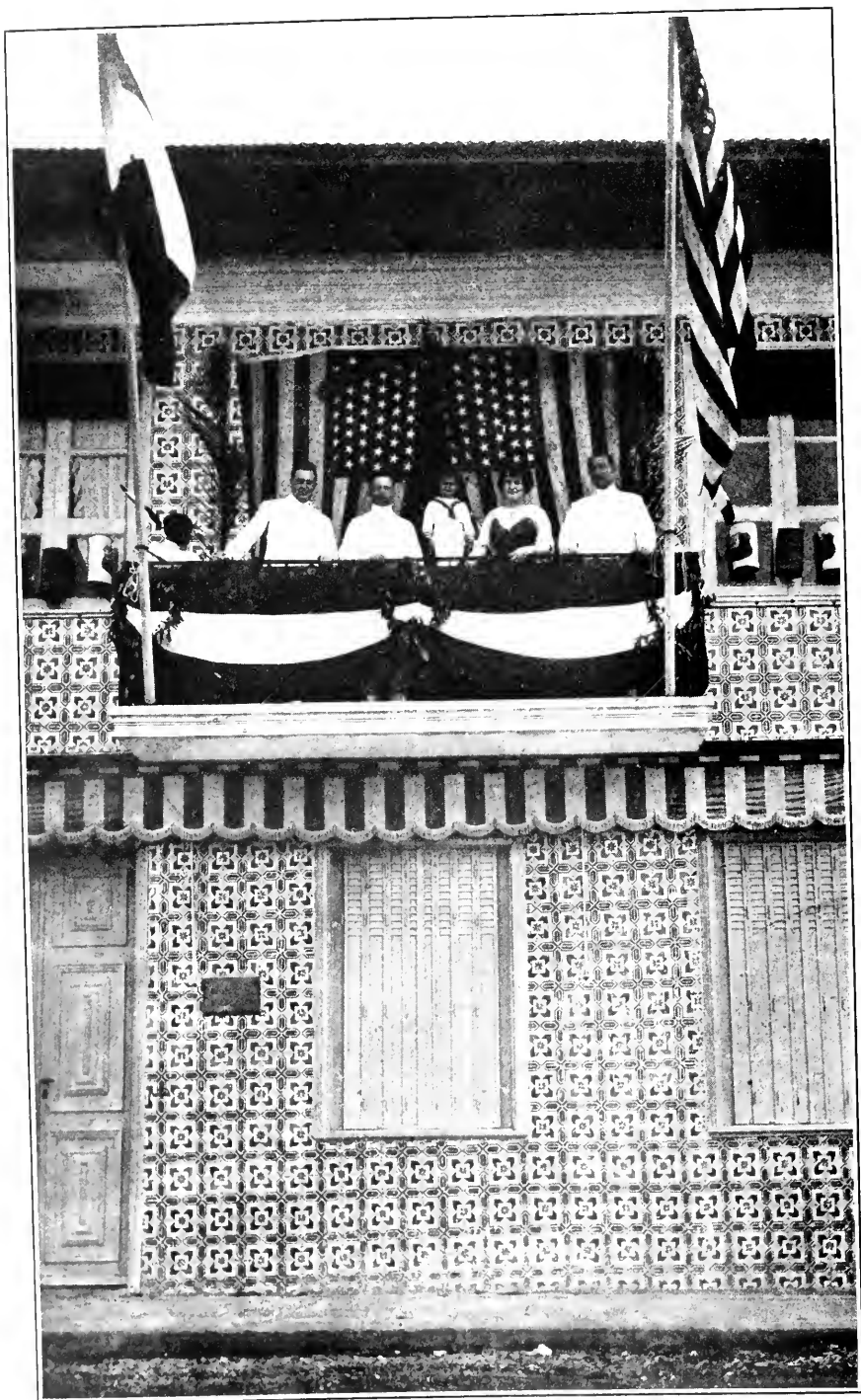
That part of the Peruvian Army which is stationed here is well equipped, drilled, and officered. There is a splendid parade ground about a mile and a half from town, where it is a pleasure to watch the troops at drill and target practice. The Government gunboats and a transport are usually stationed here. They were built in Europe and brought over under their own steam.

The public schools, four in number, are well taught and attended, the people being very generous in the support of their schools. The citizens belonging to the upper class of native Peruvians are very well educated, many of them having traveled extensively in Europe.



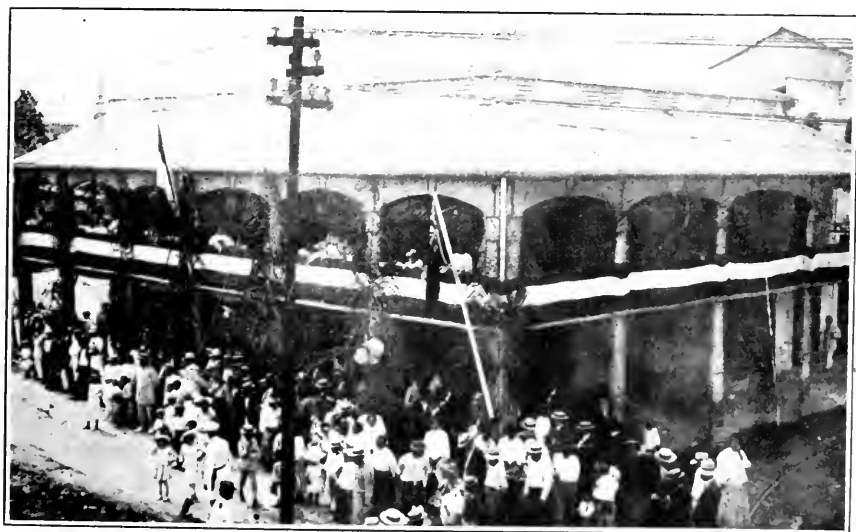
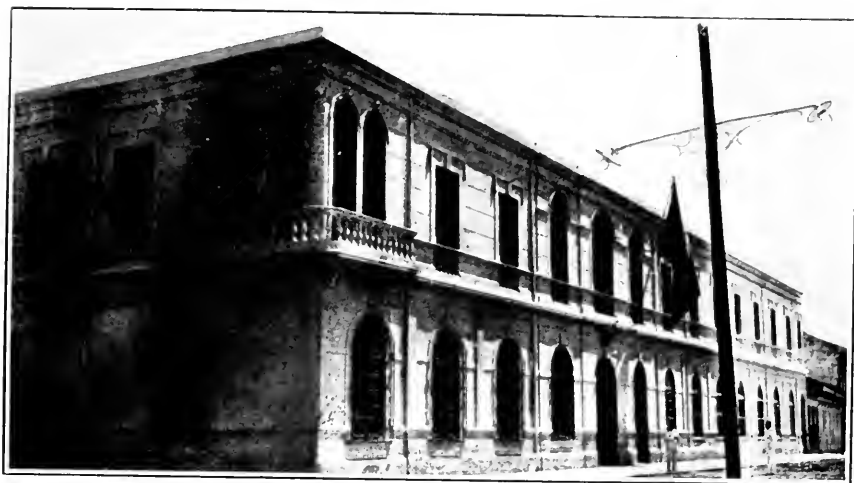
FORMER STREET SCENES IN IQUITOS.

Open sewers and stagnant water standing in pools and ditches are things of the past in Iquitos. Since the general cleaning up and sanitation in 1912, under the supervision of Dr. George M. Converse, of the United States Public Health Service, who was sent to Iquitos by the United States Department of State at the request of the Peruvian Government, the streets have been improved, yellow fever was stamped out, and the general health of the city has been markedly better. Additional sanitary measures will be instituted as soon as feasible.



RESIDENCE OCCUPIED BY DR. GEORGE M. CONVERSE.

In 1912 the United States Department of State, at the request of the Peruvian Government, sent Dr. George M. Converse, of the United States Public Health Service, as medical and sanitary expert; Mr. Samuel E. Bayless, civil engineer; and Mr. Edward Keegan, assistant engineer, to make surveys and estimates for a water and sewage system for Iquitos, the plans to include about 10 miles of street paving, drainage, etc. In the above picture standing on the porch may be seen, reading from left to right, Mr. Keegan, Dr. Converse, Master Jack Converse, Mrs. Converse, and Mr. Bayless. The Peruvian and United States flags decorate the building in honor of the Peruvian "Independence Day."



VIEWS IN IQUITOS, PERU.

Upper: Exterior view of the Prefectura, or statehouse, where the *consejo provincial*, or Departmental Assembly, meets to enact local legislation. Lower: A crowded corner in Iquitos during a "fiesta" or holiday.

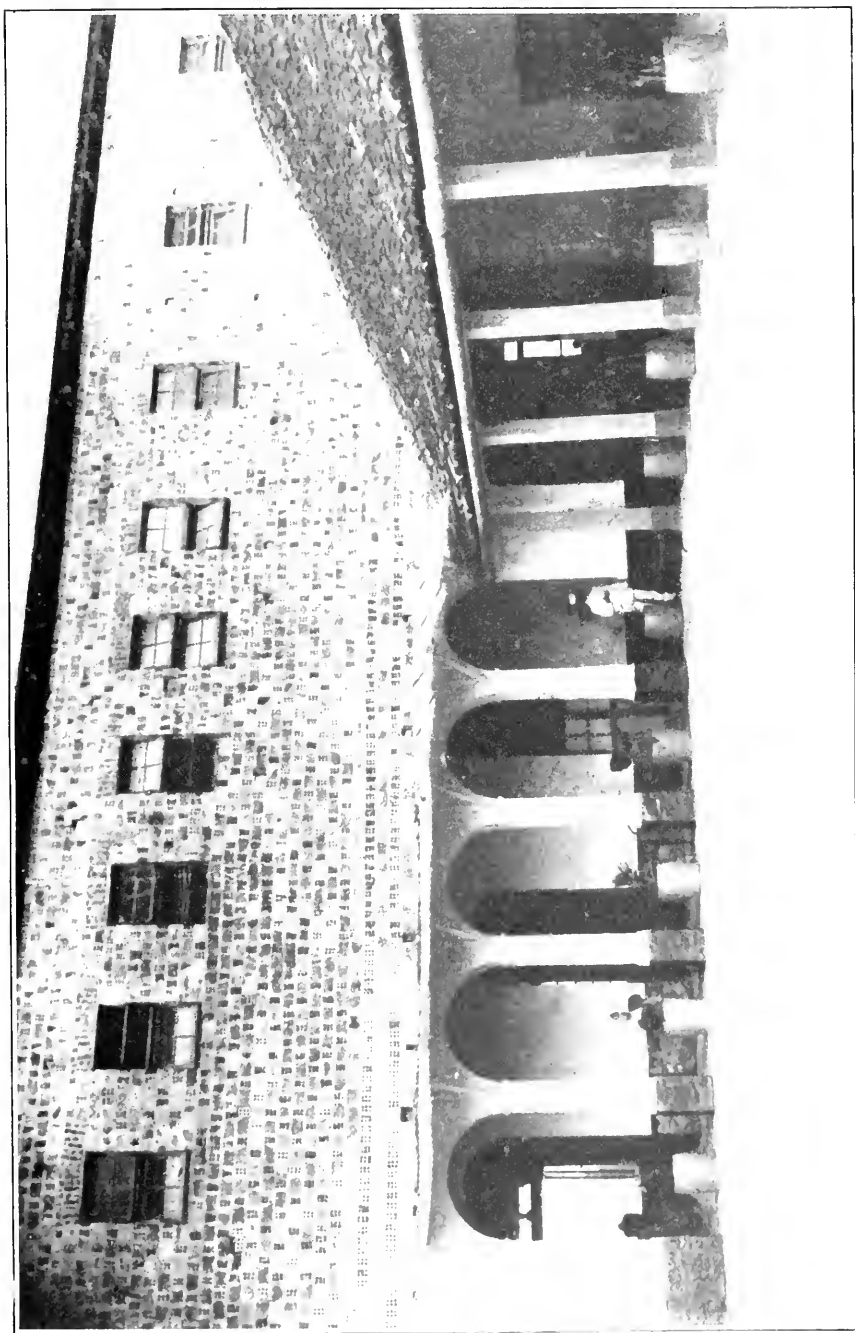
When everyone is home, during the worst of the rainy season (there are two dry seasons of from two to four weeks each, and the rainy season lasts pretty much over the rest of the year), with the *prefect* and his staff, numerous army officers, merchants, and foreigners, the place is quite lively. There are public banquets, and private dinners and dances, and as Iquiteños are very hospitable a person soon becomes acquainted, especially if he speaks Spanish, and loses entirely the feeling of isolation.

In 1912 the United States Department of State, at the request of the Peruvian Government, sent Dr. George M. Converse, of the United States Public Health Service, to look after the medical end; and myself, a civil engineer, and my assistant, Mr. Edward Keegan, to make surveys and estimates for a water and sewage system, and 16 kilometers (about 10 miles) of paving, in order to improve the sanitary condition of Iquitos.

Of course one of the first things we inspected was the water supply. We found most of the drinking water to be rain water caught from the roofs and stored in above-ground cisterns that were generally made of cement. Some water was brought in from springs which burst out from a line of low hills well above the city and away from the swamp area. There were also a good many shallow wells on the outskirts of town which were used by the poorer people. These wells perforate a stratum of stiff clay, through which the surface water can not percolate before striking water in a sand stratum, which is the reason they do not cause more sickness than they do.

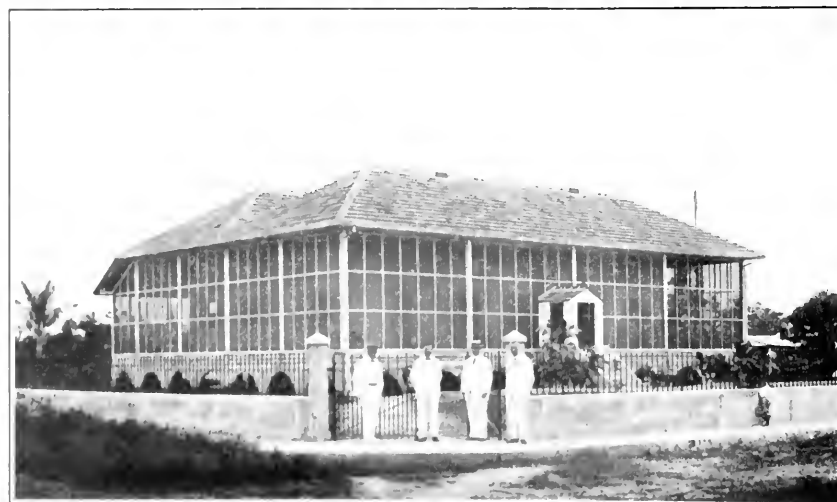
The Amazon is 3 miles wide at this point, and 160 feet deep off the wharf with a difference of about 40 feet between the high and low water stages. When the river is very high, the swamp back of the town is all flooded (the main part of town never is, being 16 feet above the highest watermark), not because it is low enough to be inundated when the Amazon is up, but because the swamp forms a kind of pocket into which the heavy rainfall from the city runs and can not sink through the underlying clay, so remains until it evaporates. When one learns that the annual rainfall for a 10-year average has been 120 inches, and that the location is only a few degrees from the Equator, he understands that this swamp is an ideal breeding place for mosquitoes of all kinds as well as reptiles.

The sidewalks are very good. They were paid for by the owners of the abutting property. The walks are of brick, with a 2-inch concrete face for a wearing surface. The concrete, however, is not very good, because the sand used was very fine and full of earthy matter; yet about 20 miles down the river there is plenty of good coarse sand and gravel that could be taken out during the dry season and stored for use during the whole year. Near the same place are large outcrops of good, hard limestone that might be quarried and crushed for making concrete. I found this sand, gravel, and stone, although I was told in Iquitos that no stone existed in that whole region.



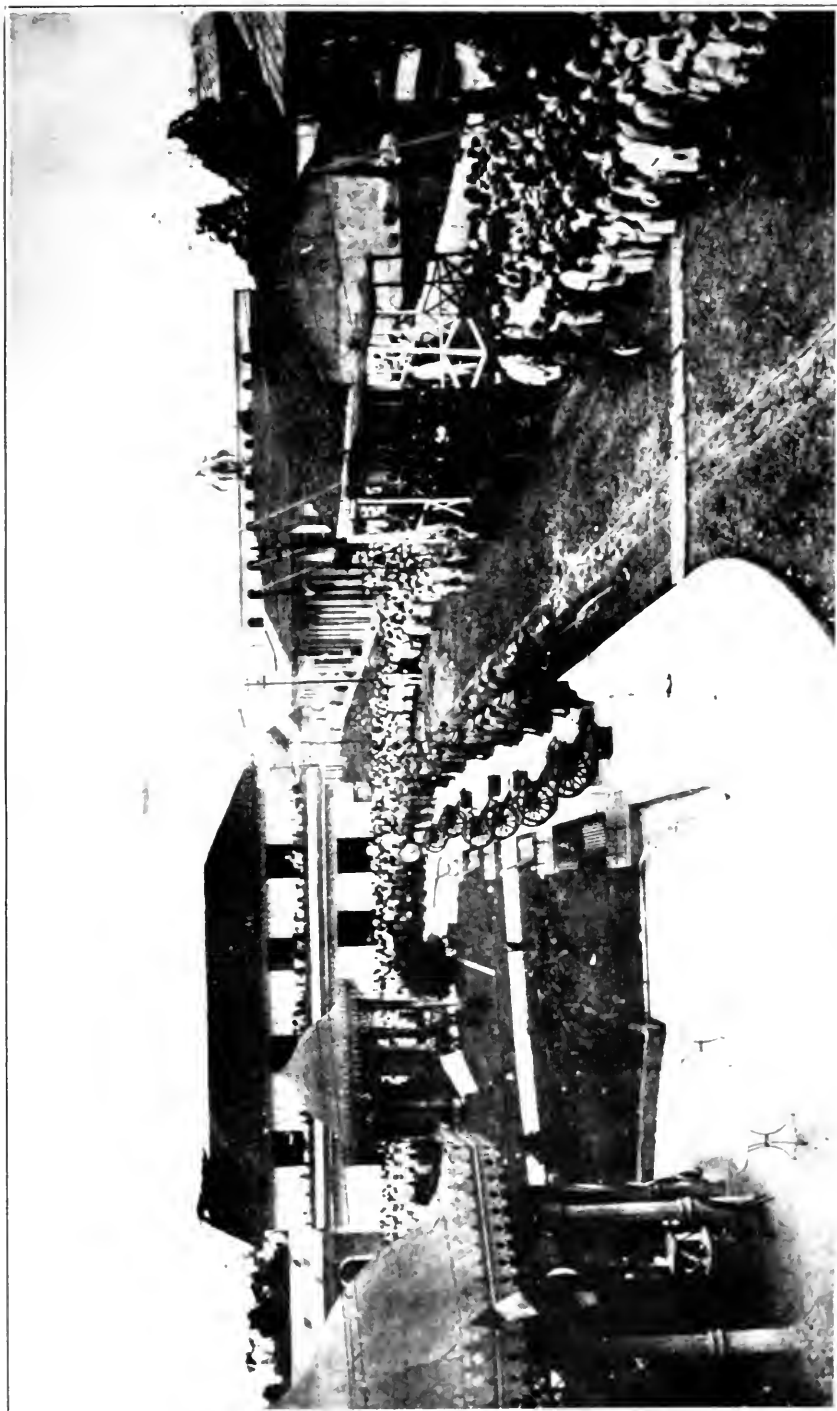
PATIO OF THE PREFECTURA, IQUITOS, PERU.

The prefectura, or statehouse, is a large and commodious structure having a fine open patio or courtyard in the center, which is now kept scrupulously clean and forms a suitable open-air ballroom for occasional official entertainments. Being the capital of the department, the *cascap provincial* meets in Iquitos, as do the supreme and minor courts. The prefect is appointed by the national administration, while the alcalde, or mayor, is elected by the people.



VIEWS OF IQUITOS, PERU.

Top: View of business section of Iquitos. Most of the houses are substantial structures of brick and concrete with tile or galvanized iron roofs. Center: The customhouse at Iquitos. Bottom: Home of the Iquitos Steamship Co. (Ltd.), controlled and operated by the Booth Line. The gentlemen standing at the entrance are members of the local staff of the company.



AN INDEPENDENCE DAY CROWD IN IQUITOS.

July 28 is "Independence Day" in Peru. It was on that date in 1821 that the banner of freedom was unfurled by the victorious Peruvian patriots in the city of Lima, once known as the "City of the Kings," and the viceregal capital of Peru during the years that it had been a Spanish possession, and the absolute independence of the country from Spain was declared in the memorable words: "Peru from this moment on is free and independent by the will of the people and by the justice of their cause, which God defends." The annual recurrence of the date is fittingly celebrated by the enthusiastic Peruvians throughout the length and breadth of the Republic.

We completed the surveys, plans, and estimates for all the necessary improvements: for an adequate water system distributed over the entire city, with pumping and filtration plants; a sewage system, having two outlets and including the draining of the big swamp; also the paving in 1913. The cost to make this a really sanitary city would be between \$1,500,000 and \$2,000,000, but owing to the heavy falling off of revenues which occurred at that time, the result of the great drop in the price of rubber, the European war, and other causes the Government could not go on with the construction work, so the project is temporarily in abeyance.

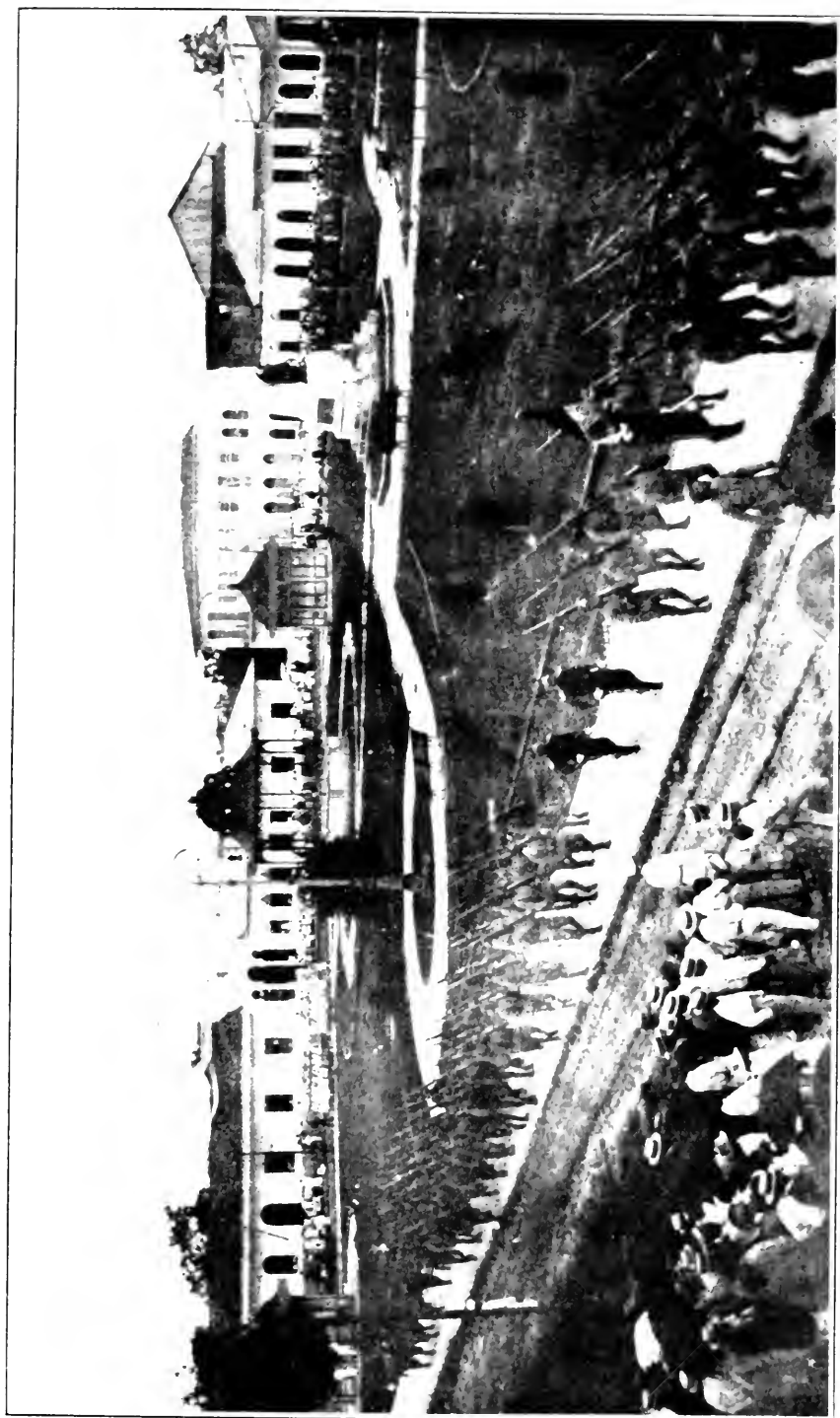
The principal product of this part of South America is rubber, which is gathered from the vast tropical forests, and many thousand tons of it are shipped from Iquitos every year. Next in importance, in the matter of exports, is the tagua nut, or vegetable ivory, and the number of tons of this product sent out is increasing. Third come cedar logs in the round, which are now being supplied for pencil wood, cigar boxes, etc. A few hides, skins of boas, deer, and other wild animals complete the list of articles which reach the outside in any quantity from this port.

Very few agricultural products are obtainable. The soil, a loose sand underlaid by stiff blue joint clay, which is close to the surface, is not conducive to farming; and the few chacras, or small farms, are some distance from the city. So with the exception of cassava, or yucca, plantains, bananas, sweet potatoes, a little cane (mostly used for making rum), and a small amount of garden vegetables, everything that is eaten, worn, or utilized in any way is imported from Europe and the United States or other parts of South America. A few cattle and hogs are raised in cleared areas on the Amazon or near-by rivers; but most of the cattle and all the horses and mules are brought from great distances, over the Andes and down the tributaries of the Marañon, Ucayali, and Huallaga Rivers, hundreds of miles, on immense rafts, or balsas, stopping every night, after the worst of the rapids are passed, to cut grass to feed the animals. This is dangerous and expensive transportation, consequently beef is very high in Iquitos. So are all the imported articles, as freight rates are almost prohibitive, while import duties seem higher than necessary.

Oranges also are brought long distances; and tobacco to supply the three cigar and cigarette factories.

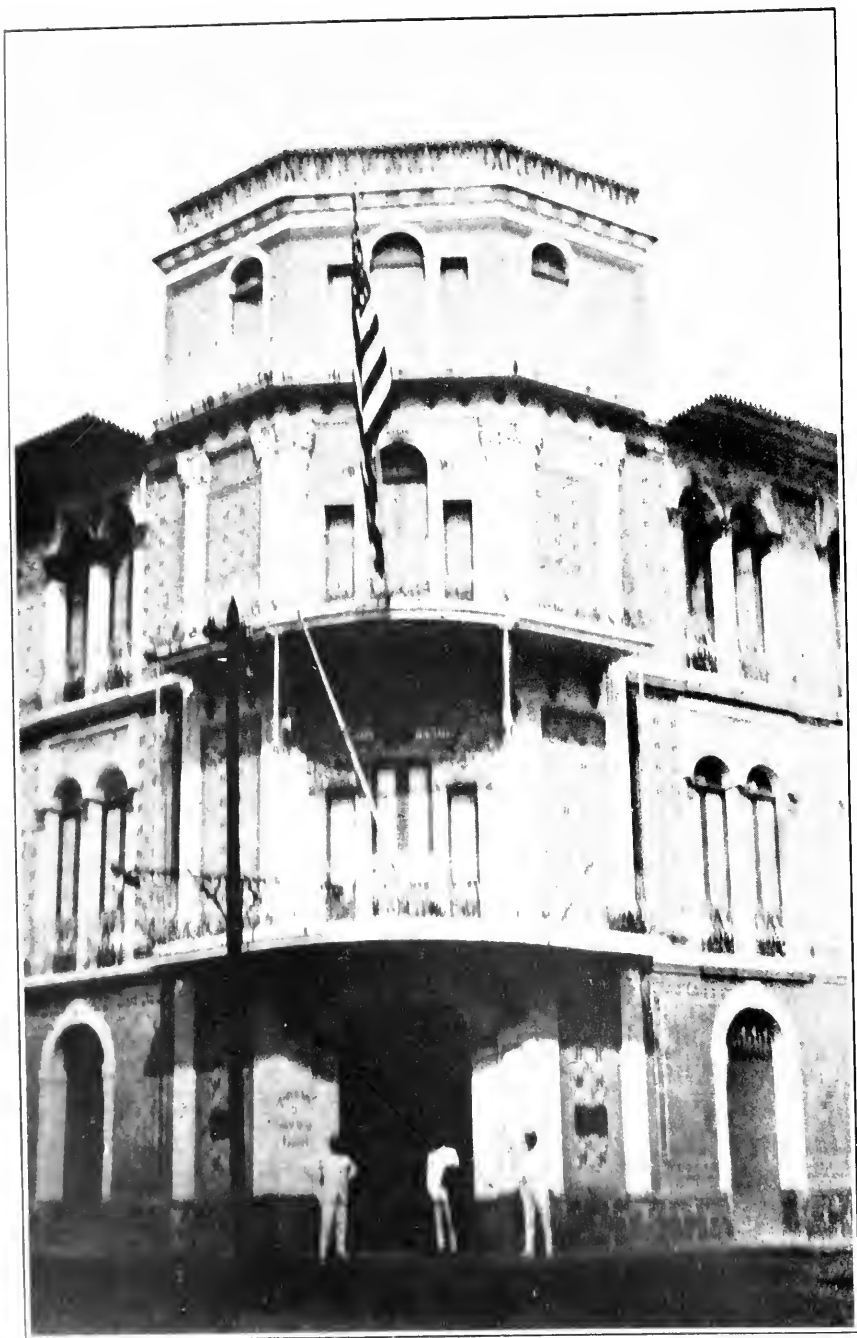
There are four or five brick and tile factories here, one of which is very well equipped and makes even sewer pipe; and six sawmills.

Four years ago a very powerful wireless station was erected by the Government to replace one less powerful; and now the town is in direct radio connection with Lima, clear across the Andes, without any relay of messages. Indeed, the operator frequently told me he had "picked up" Washington the night before and heard messages going from there. But treaties for exchanging commercial messages



PERUVIAN SOLDIERS STATIONED AT IQUITOS.

"That part of the Peruvian Army which is stationed here is well equipped, drilled, and officered. There is a splendid parade ground about a mile and a half from town, where it is a pleasure to watch the troops at drill and target practice."



THE MALECON PALACE, IQUITOS, PERU.

The Malecon Palace is a fine new hotel, built of reinforced concrete and handsomely decorated, having all modern improvements and conveniences. It was built by Sr. Otoniel Vela, a public-spirited and wealthy gentleman, at a cost of \$250,000. It is on the street facing the river and has its own drainage system directly into the stream.

even with Manaus had not yet been arranged. There is also wire communication with many points nearer than Lima, and telephones in the town, though their use is not general.

At least two newspapers are published here regularly, also a small magazine; and three theaters, two used for moving pictures, furnish plenty of entertainment.

Away up the alto Marañon River, but not above steam navigation, right in the sand and gravel of the river bed, is plenty of flour gold that, with the most modern type of hydraulic dredge, could no doubt be made to pay well for operating. A small, inventor's experimental dredge was taken there a few years ago by a party of visionary Americans and put to work when the water was low; but it did not have boiler power enough to operate it, even when gold colors could be gotten with a pan right alongside the dredge, so was abandoned. I believe it is still lying in the river, as the company had only sufficient money to reach the place and pay the freight on their outfit. There is also plenty of gold, coarser than in the upper Amazon, or alto Marañon, in the Napo River and its tributaries and creeks. This is not in Peru, but some days by steamboat beyond the Ecuadorean frontier. It is, however, commercially connected with Iquitos.

All the coal is brought from Norfolk, Va., and although very high in price is used by the ice factory, bottling works, electric-light plant, and various machine shops, both Government and private. Even the little street railroad, which runs from the customhouse along the principal streets to deliver freight, burns coal. This road also runs passenger trains, and operates a line out to a resort in the suburbs, called Lake Marona Cocha. To be sure, there is plenty of wood near by that is used to a certain extent; but it has not sufficient heat units to maintain steam well.

Four days up the Nanay River, which empties into the Amazon 12 miles below Iquitos, are found outcrops of very good lignite that could be utilized under boilers, as has been proved in a small way; but so far no one has seen fit to exploit it. In the same vicinity are very good indications of petroleum.

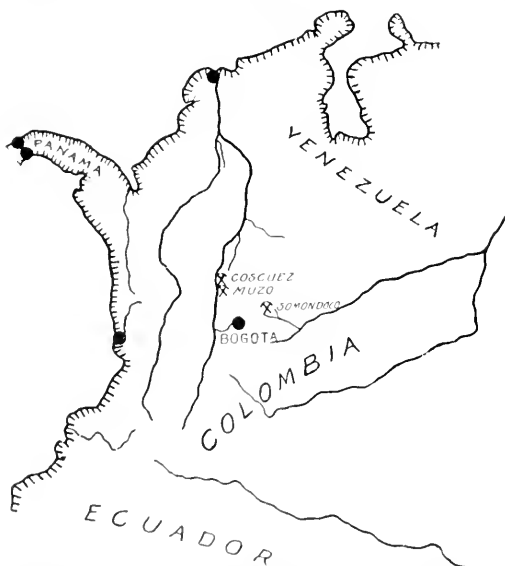
Twenty-five or thirty steamers, of from 4 to 8 feet draft, and calling this their home port, ply the upper Amazon and numerous rivers that flow into it, though they never go below the Javary, which is the boundary between Brazil and Peru along its line of flow. They belong to the many large stores and trading companies located in Iquitos, that carry very complete stocks of goods, mostly European, and in ordinary times when rubber is "up" do an immense business.

The Booth Co., an English corporation, maintains a line of steamers between New York and Iquitos, and another from Liverpool, and there used to be a boat from one port or the other every three weeks; but since the European war began the sailings have been irregular.

THE EMERALD IN SPANISH AMERICA¹

THE principal source of that rarest and most costly of precious stones, the emerald, lies in a remote and well-nigh inaccessible part of the Colombian Andes near the headwaters of the Orinoco River. The circumstances attending the operation hundreds of years ago of these and adjacent deposits by Indians, their discovery and exploitation by the Spaniards, and the subsequent

abandonment and loss until very recent times of some of the most productive mines, are among the most remarkable that enrich the history of mining in South America; while the bare facts of occurrence are so distinctive as to set apart the locality and give to it all the interest of geologic novelty. These aspects of a mineral that played a significant part in the lives of the three most cultured aboriginal peoples of the two Americas, the Aztecs, the Incas, and the Chibchas, can not fail



MAP SHOWING LOCATION OF EMERALD MINES, COLOMBIA.

to impress the traveler who seeks to penetrate the wild and engaging country surrounding the famous mines of Muzo.

The emerald has been known since early times both in Europe and in certain parts of the Orient, where its attractive color and rarity has endowed it with the highest rank and a varied lore. Its name may be traced back to an old Persian word which appeared in Greek as *smaragdus*, mentioned by Theophrastus over 300 years before the Christian era, and again in Latin as *smaragdus*, seen in the writings of Pliny, who particularized somewhat on its properties and supposed medicinal virtues and was even shrewd enough to suspect its identity with the much more common beryl, although eighteen centuries elapsed before this suspicion was verified by scientific proof. It is

¹ By Joseph E. Pogue, Ph. D., Associate Professor of Geology and Mineralogy, Northwestern University.

probable that most of the emeralds known to the Europeans of ancient and mediæval times came from the so-called Cleopatra emerald mines of Upper Egypt, which were richly productive in the remote past, but for some reason were abandoned and became entirely lost to knowledge in the Middle Ages, only to be rediscovered and worked in a small way during the last century. Perhaps some stones also came into Europe at an early period from the East; at least we know that India, that source of so much wealth in precious stones, has long made lavish use of the emerald; and that in the hereditary treasures of Indian princes, in the temples and shrines of that vast country, and in the jewelry and ornaments of her clever metal workers, the emerald holds a place of such prominence as to suggest a local supply, although no well-authenticated occurrence of emerald in the Orient is yet known. Then, too, the emerald deposits on the Asiatic side of the Ural Mountains, though not modernly discovered until 1830, may have been also drawn upon in ancient times, if we are justified in this inference by the presence of emeralds in some of the ornaments of ancient Siberian workmanship, now preserved in the Hermitage collection in Petrograd.

It may readily be realized, therefore, that when the sixteenth century turned the attention of Spain to the New World, so recently discovered, the possibility of finding there fabulous riches in gold and precious stones played a not insignificant part in firing the imaginations of the adventurous spirits that hastened into the most daring series of explorations and conquest that modern history relates. In the chain of events that led up to Spanish dominion in the two Americas, the rôle of the emerald, already well known and highly prized in the Old World, forms a neglected chapter in a narrative of bold adventure so vividly depicted by the facile pen of Prescott.

The first aggressions of the Spaniards in the New World were directed against the islands of the Caribbean Sea, but it was not long before the mainland drew attention. In 1519 Hernando Cortes landed on the shores of Mexico and, burning his ships behind him, started on his memorable march inland, which culminated the following year in the subjugation of the Aztec tribes and the capture of their ruler, Montezuma. The Spaniards exacted heavy tribute in gold and precious stones from these Indians, who were well versed in the utilization of such materials; and the treasures sent back to Spain in this and the following century, as well as the accounts of the old Spanish chroniclers, form ample testimony of a highly developed art and technique in the handicrafts. Of the precious stones employed, perhaps the one of greatest significance to the Aztecs was a green stone called *chalchihuitl*, under which term was included both jade and green turquoise; blue turquoise also was well known and highly prized by them; while the emerald was ranked high in the list of



Photo by J. E. Pogue.

EMERALD MINES IN THE MUZO VALLEY, COLOMBIA.

"The Muzo mines lie on the side of a small tropical valley in the western foothills of the Eastern Cordillera of the Colombian Andes. They are distant only about 96 kilometers in a directly northwesterly line from Bogotá, the interesting capital of Colombia." In the above picture the terraced banks where the emeralds are mined are shown quite plainly on the left side.

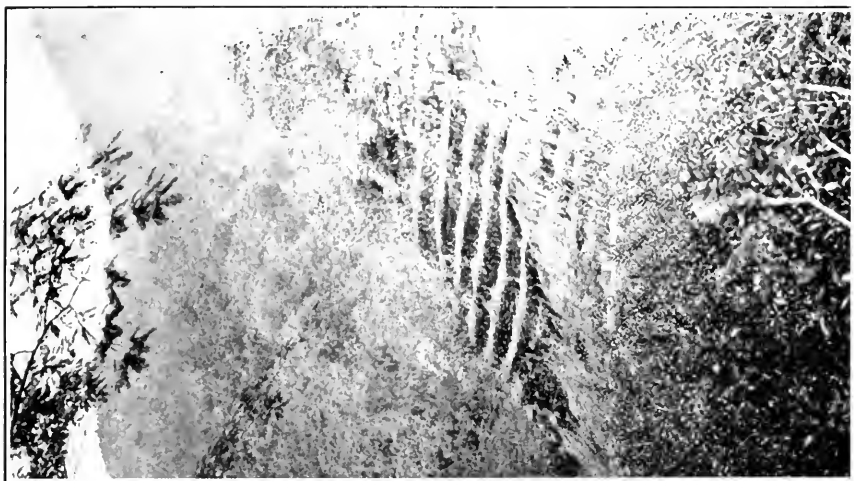
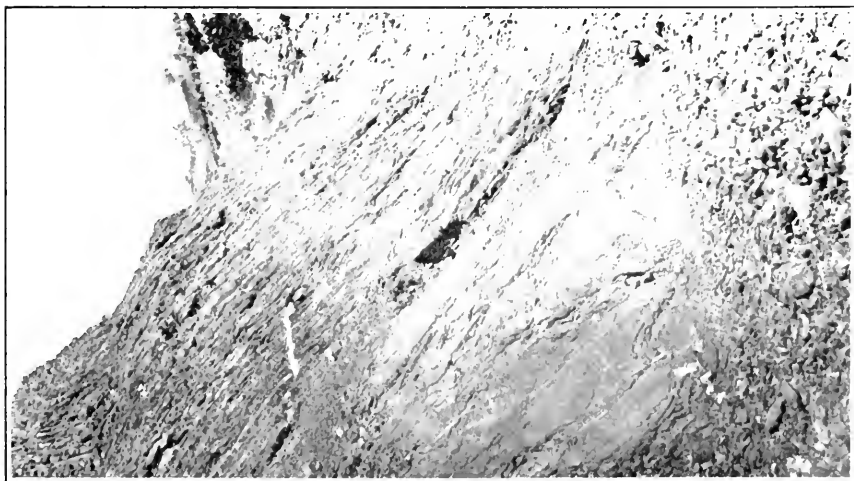


Photo by J. E. Pogue.

VIEWS OF THE MUZO EMERALD MINES, COLOMBIA.

Left: View of one of the open cuts at the Muzo mines, showing white, emerald-bearing veins cutting folded strata of limestone shale. Right: View of one of the terraced banks, showing the benches along which the emerald-bearing rock is broken away.

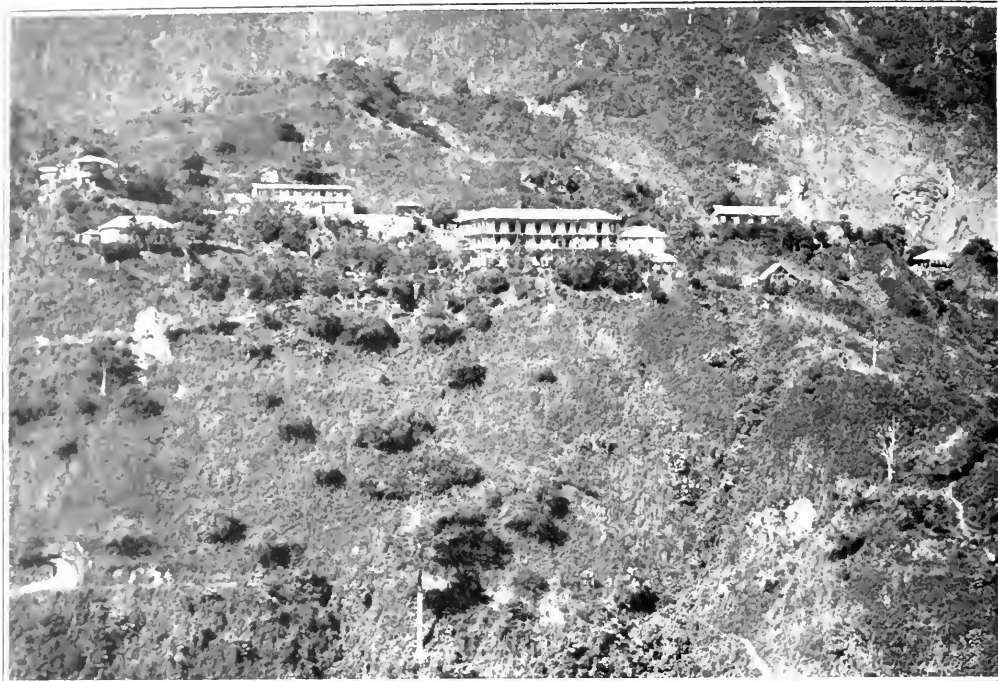


Photo by J. E. Pogue.

PANORAMIC VIEW OF BUILDINGS

The Muzo emerald deposits, discovered toward the close of the sixteenth century, have been actively, though at times has exceeded the total of any

their choicest possessions. These three stones carried not merely a value as ornaments, but were deeply associated with the religious life of their owners and were used both symbolically and actually in many rituals and ceremonies. Their colors, including various shades of green and blue, peculiarly adapted them to such purposes; these colors were those of water, of sky, of verdure; and to the simple minds who worshipped nature it was but natural that such objects should appeal as symbols of fundamental meaning. This has been the rôle of the rarer green and blue minerals in many parts of the world at many times in history.

To the Spaniards, however, the appeal was different; to them these objects meant treasures, and of the three the emerald's call was strongest. The *chalcihuitl* laid little claim on their cupidity; for green turquoise and jade were not "precious" stones *par excellence* in Europe. Blue turquoise aroused a greater interest; stones of fine quality from the mines in Persia were well known in Spain; therefore the extensive use of this material in objects of Mexican workmanship, particularly in the remarkable mosaic masks employed in religious ceremonies, kindled quick recognition and appreciation. In their subsequent explorations the Spaniards succeeded in locating the source of turquoise supply in large quarries hundreds of miles northward in the present State of New Mexico. But with the emerald they were



AND OPEN CUTS AT MUZO MINES.

inefficiently, exploited almost continuously up to the present time. Their yield, both in quality and quantity of good stones, other emerald deposit in the world.

not so fortunate: though acquiring many valuable stones and no doubt keenly on the lookout for clues leading to their source, they never learned where these were mined. Or, if they learned, they left no hint in their writings; nor has modern geological investigation brought to light a single emerald vein between the Rio Grande and the Isthmus of Panama. Either the place of origin of the emeralds used by the Aztecs is not yet known, or what is more likely they came from the deposits in South America which were under operation at the time of Aztec supremacy.

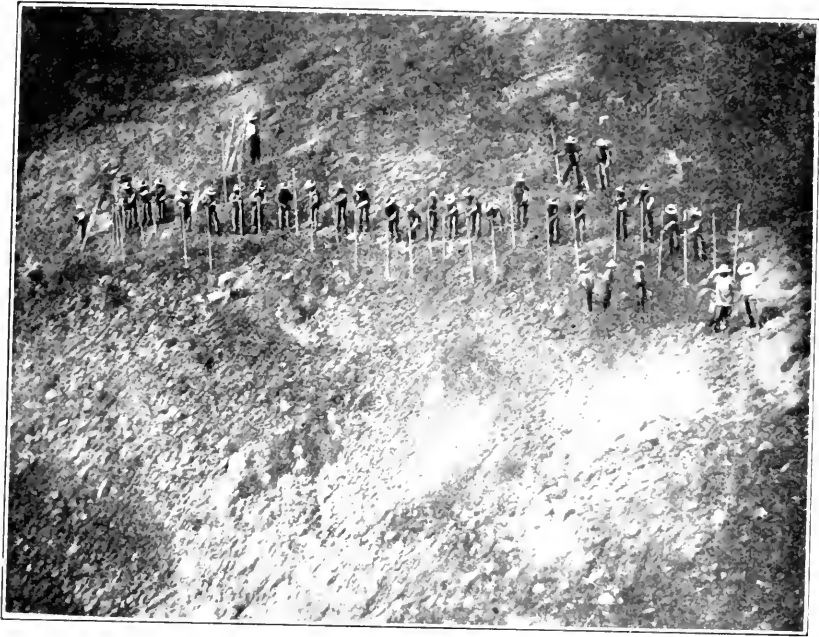
It was scarcely more than 10 years after Cortes seized the capital of the Aztec peoples that history repeated itself in the successful feat of Francisco Pizarro, who with a mere handful of men gained the high plateau of the central Andes and planted the flag of Spain over a race of Indians, the Incas, remarkable in their social development and surpassing in some of their crafts the best the world has since produced. A wealth of treasure here too met the eyes of the conquerers: gold, silver, turquoises, emeralds and a stream of these valuables for many years flowed into Spanish coffers. Immense quantities of emeralds, some said to be of incredible size, were sent to Spain, and from Spain many found their way to other parts of Europe. So copiously did the newly founded viceroyalty of Peru supply the Old World with these precious green stones, drawn from

the accumulation of centuries, that the South American emerald came to be known as the Peruvian emerald, though no Peruvian deposits were then, or indeed are now, known. Again the Spaniards were thwarted in their attempts to locate the emerald veins from which the supply had been obtained.

It would seem that two such exploits as these of Cortes and Pizarro would suffice a single period and a single race; but not so. A third expedition, small in size but daring in spirit, headed by Gonzalo Jimenez de Quesada, left the northern coast of South America in 1536 and with incredible hardships penetrated southward along the tropical jungles of the Magdalena River until it reached the smiling plateau on which the city of Bogota now stands, a monument to Quesada's venture. Here dwelt the Chibchas, a race of Indians in many respects analogous, though somewhat inferior in culture, to the Aztecs and Incas. They numbered perhaps a million souls; they were peaceful, well organized socially, religious, ritualistic, skillful workers in gold and silver. The impossible happened; for the third time, a handful of strangers surrounded by a numerous race in full vigor acted with a swiftness and boldness that knows few parallels and established a third center of Spanish control, the new Kingdom of Granada. The Chibchas are gone; like the Aztecs and Incas they were wiped out by superior intelligence; their superstition was their undoing. Only a few graves and ruins, some scattered remnants of their handicrafts, a few vague traditions, and an occasional mention by an old Spanish writer, keep their memory alive. They are at at once a tragedy and a mystery.

The Chibchas knew the emerald well; they highly prized its beauty and symbolized its meaning; they used it in their religious ceremonies; they owned and exploited possibly the richest deposits in the world, which lay at the edge of their domain overlooking the vast plains of the upper Orinoco.

The Chibchas are known to have thrown quantities of gold and other ornaments into certain of the lakes that are scattered over the plateau region over which they held sway. Not only did they do this at the time of the conquest in an attempt to protect their treasures from the hands of the aggressive Spaniards, but they had customarily done it in times past in certain of their religious rites. One of these bodies of water, Lake Guatavita, lays claim to exceptional interest as the point of origin of the famous tradition of *El Dorado*, the gilded man, which gave rise to the belief in the existence of the "Land of El Dorado," the object of so much vain and costly search in early Spanish days. According to the account of an old Spanish chronicler, this legend originated in an elaborate ceremony connected with the accession of a tribal chieftain, in the course of which the young prince, anointed with sticky clay and dusted with



EMERALD MINING IN COLOMBIA.

Upper: View of portion of mine showing emerald-bearing strata. Lower: View of a settling tank at the Muzo mines, in which the smaller emerald fragments are separated from the crushed rock.

powdered gold, proceeded on a raft to the center of the lake and there, in view of a great concourse of Indians on shore, threw overboard as a sacrifice to the gods a "mountain of gold and emeralds."

Although the Spaniards at once noted the numbers of fine emeralds in the possession of the Chibchas and suspected a local occurrence, they were unable at the outset to learn the source. They followed up every clew, however, and shortly after the founding of Bogota in 1538 a small exploring party, headed by Capt. Pedro Fernandez de Valenzuela, traced these valuable prizes to a locality on the eastern edge of the plateau country about 85 kilometers north of east from Bogota. Fray Pedro Simon, the first Colombian historian, tells how this small band found extensive workings on a ridge somewhat lower than the main range, in a position that commanded through a gap in the surrounding mountains a view of "vast plains and majestic rivers, stretching away as far as the eye could reach toward the rising sun." Quesada was delighted with the success of this venture, for not only had rich emerald mines been discovered, but the vast *llanos* or grassy plains on the upper reaches of the Orinoco River had been seen for the first time.

These emerald deposits, which have been called Chivor, but are more generally known as the Somondoco deposits, were found to be under exploitation by the Indians, who worked there regularly during the rainy season, breaking down the friable emerald-bearing rocks with streams of water and long wooden crowbars. The number of great open pits and the extent of the operations suggested the work of centuries, and it seemed evident that the veins had for a long period supplied quantities of stones to the natives of the surrounding country.

The Spaniards collected as many emeralds as they could, but engaged immediately in no systematic mining, deterred no doubt by the inhospitality of the region and the difficulties of approach. A few years later, however, they turned their attention anew to the rich possibilities of the locality, and, returning with a larger force, dispossessed the Indians and undertook extensive operations. By 1565 mining was under active prosecution; 1,200 men were employed in the workings, and every three months consignments of stones were sent to the coast on the backs of Indians for shipment to Spain. Records of this early work are scant, but it seems that the mines were productive for perhaps a hundred and fifty years, when they were shut down by the order of Charles II of Spain because the mining costs had risen in excess of the profits. It may be that the operations, never very efficiently prosecuted, had been directed toward a barren portion of the mines; but it is more probable that the "Spanish treasury was being systematically defrauded," and thereupon the home government lost interest in the undertaking.



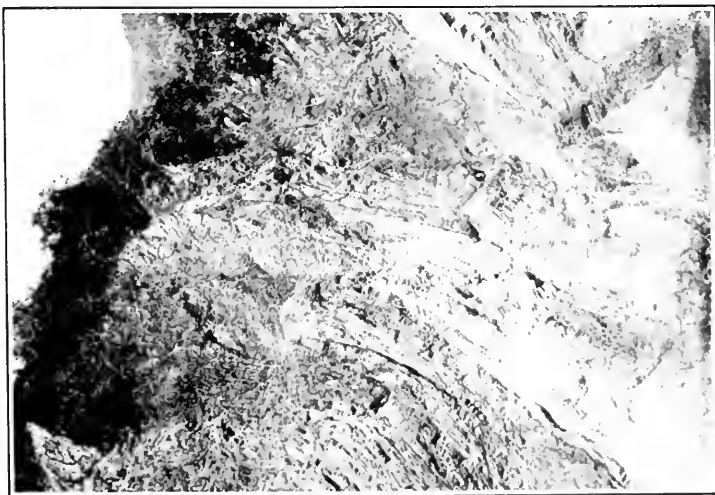
MINING EMERALDS IN COLOMBIA.

Washing the debris after the rock has been loosened by the native workers by means of long iron crow-bars. The emerald-bearing rocks are picked out by hand, and the emeralds, when freed from their matrix, are seen to be small six-sided prisms of rich green color, ranging from the size of a man's thumb to microscopic dimensions. The Muzo mines, whose output since their discovery may be estimated in terms of tens of millions of dollars, are the world's most important source of these precious green stones.

The Somondoco mines, deserted by the Spaniards, quickly dropped out of prominence; attacked by an aggressive vegetation, the openings became quickly overgrown and soon a vague tradition was all that remained to recall the extensive operations of the past. Some two centuries later, in 1906, a Colombian, Francisco Restrepo by name, went in search of the lost mines of Somondoco; guided by the description of Fray Pedro Simon and an old parchment map turned up in the archives of Bogota, he succeeded in discovering the gigantic open cuts that mark the site where so many emeralds were formerly obtained. Though once more brought to knowledge, the mines were not made to yield their treasures again, and they stand to-day an undeveloped resource of the Colombian Government.

Turning again to the sixteenth century, we find that the Spaniards in their conquest of the region near Bogota met with stubborn resistance from a wild and warlike tribe, the Muzo, who lived in the hot lands just west of the Chibcha domain. In 1555 Capt. Luis Lanchero led a force of men into the Muzo territory and after a period of fierce and relentless fighting founded the village of Muzo in the midst of these stubborn Indians and forced them into nominal submission. The conquerors then turned their attention to the resources of this region and soon discovered a rich vein of emeralds in the nearby Itoco Mountains, which they actively worked for a time in the face of repeated attacks by the Indians, but subsequently relinquished to the embrace of the overrunning jungle. In the meantime, however, the ever watchful Spaniards gained the suspicion that the Muzos possessed important emerald deposits, which they had long worked but were carefully guarding from the attention of their white enemies. The old accounts are obscure, but it seems that either in 1568 or in 1594 a Spanish force found an extensive series of trenches and pits at a difficultly accessible point in the Itoco Mountains, some 8 kilometers from the village of Muzo; and thus brought to light the mines of Muzo, soon to become well known throughout the world. The Spaniards had no scruples in assuming control of these deposits, which were immediately made to yield rich returns.

After the discovery of the Muzo workings, the Spaniards came across other deposits known as the Coscuez at a locality about 12 kilometers north-northwest of the Muzo mines. Little information remains regarding these deposits; but they were undoubtedly well known to the Indians and had been worked by them, for a virgin discovery on the part of the Spaniards is almost inconceivable in a region so densely vegetated and so difficult of access. The Coscuez deposits were actively exploited for a period, and were probably of considerable importance; a tradition tells of the death of 300 workmen upon the caving of one of the galleries. This unfortunate accident seems to have ended operations for a time, which, however,



EMERALD MINING IN COLOMBIA.

Left: One of the open cuts at the Muizo emerald mines, showing an irregular network of emerald-bearing veins. Right: View of part of the sorting shed at the Muizo mines, showing manner in which the emeralds are separated from the crushed matrix.

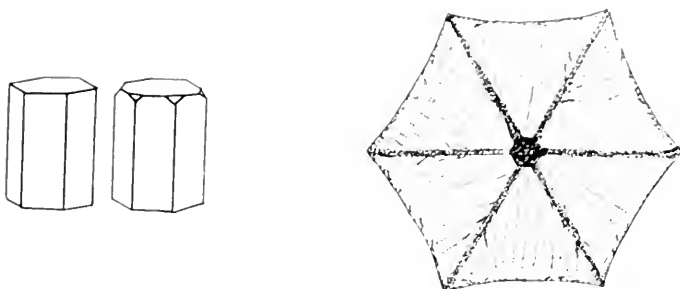
were resumed just before the war of independence in the early nineteenth century; but in the readjustment growing out of that event, the Coscuez mines, like the Somondoco, were abandoned, became overgrown with jungle, and were soon completely lost. They have only in the past few years been rediscovered and now await development at the hands of the Colombian Government, which holds sole control of the emerald resources of the Republic.

The Muzo deposits, discovered, as we have seen, toward the close of the sixteenth century, have had a history quite different in its continuity from that of the lost mines of Somondoco and Coscuez. It would hardly prove interesting to follow in close detail the vicissitudes of their development under Spanish rule and later under Colombian direction. It is sufficient to say that they have been actively though often inefficiently exploited almost continuously up to the present time, and their yield both in quality and in quantity of good stones has exceeded the total of any other emerald deposit in the world. Since January 1, 1913, operations have been temporarily suspended and effort directed merely to the maintenance of the property.

The Muzo mines lie on the side of a small, intensely tropical valley in the western foothills of the Eastern Cordillera of the Colombian Andes. They are distant only about 96 kilometers in a directly northwesterly line from Bogota, the interesting capital of Colombia, but so rough is the country of approach that it requires three days by mule back to make the journey. The locality is so remote from the coast that the deposits have been visited by few foreign travelers and it is only within the past two years that they have received adequate geologic study.¹

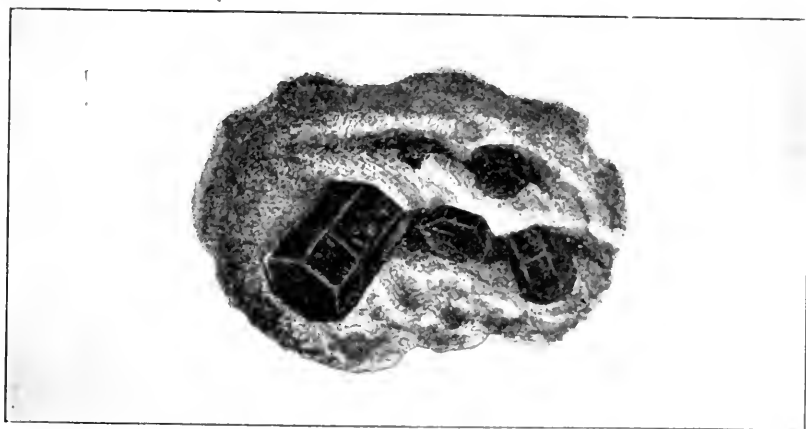
The mines consist of a series of some eight large open cuts, which lie closely grouped on the steep slopes of a densely wooded mountain. From a little distance the main workings seem to form a huge funnel-shaped depression which appears in striking contrast to the long velvety slopes of green. Entering this craterlike opening through a narrow canyon below, or looking down upon it from its rim above, one sees in detail the individual cuts as sloping banks of terraces resembling giant stairways. Across these working faces, which consist of folded and contorted beds of coal-black limestone and shale, stretches an irregular network of white threads, gleaming in the tropical sun like zigzag lightning flashes in a field of black. These are the calcite veins which carry here and there, but none too

¹ The writer made a geological examination of the Muzo mines in 1915, and a technical account of his study may be found in the Bulletin of the American Institute of Mining Engineers, May, 1916, pp. 799-822. Prof. Robert Scheile, of the Mining Academy of Berlin, has completed an extensive examination of the emerald deposits of Colombia, but his report to the Colombian Government has not been made public; his scientific results, it is hoped, will be published later. The present writer is indebted to the courtesy of the Colombian Government for the privilege of studying the Muzo deposits.



THE EMERALD IN SPANISH AMERICA.

Left: Characteristic shapes of the emerald crystals found in the Muzo mines. Right: Cross section of a remarkable emerald crystal recently found at Muzo, showing carbonaceous impurities disposed along crystallographic lines so as to form a six-rayed star pattern.



THE SOUTH AMERICAN EMERALD IN MATRIX.

abundantly, small cavities or nests lined with tiny crystals of emerald and associated minerals.

This occurrence from a geological standpoint is unique and of the deepest scientific interest; the emerald elsewhere in the world is found under altogether different conditions. So unusual and not to be expected is this type of occurrence, that in the past rather wild speculations have been indulged in as to its origin, it being even suggested that the emerald crystals were washed in from some other source at the time the rocks were being deposited under water as sediments. This explanation, however, is entirely out of harmony with the facts, which show clearly that the emerald has crystallized in place as a result of heated solutions and vapors given off from some near-by cooling mass of igneous rock.

The emeralds, when freed from their matrix, are seen to be small six-sided prisms of rich green color, ranging from the size of a man's thumb to microscopic dimensions. The flaws or internal cracks, characteristic of these as of all other emeralds, are not always present in the freshly mined stones, but if not they almost invariably develop soon after the specimen is removed from the inclosing rock, a result presumably caused by a strained condition of crystallization. Recently a few remarkable crystals have been found, showing a tapering hexagonal core and six-rayed star pattern of carbon dust.

The mines up to 1913, when operations ceased, have been worked in a rather simple manner by Indian laborers or peons breaking down the friable, emerald-bearing rock with long iron crowbars and picking out the emerald veins by hand. A regular attack in this manner along definite lines gives rise to the horizontal sets of benches or terraces so characteristic of recent workings. It would seem that modern types of mining machinery, such as the steam shovel, might be profitably introduced; yet so fragile are the emerald crystals that the operations may have to continue to rely largely on individual effort.

The total output of the Muzo mines can not be estimated within even an approximation of accuracy. The pre-Spanish output was undoubtedly large, though probably not as great as the production of the Somondoco mines; but the production under Indian exploitation is not open to any measure whatsoever. From the end of the sixteenth century to 1830 practically all the emeralds that came upon the European market were obtained from Colombia; and such is the source of probably the majority of emeralds in circulation to-day outside of the Orient. It is certain therefore that the total output of the Muzo mines may be estimated in terms of tens of millions of dollars, an amount which makes them the world's most important source of these precious green stones.

IMPORTANCE OF SOUTH AMERICAN TRADE' :: ::

THE development of foreign trade has not been a primary consideration in the United States. Here it has received less attention than in most countries. In this country many factors have prevented foreign trade from being deemed of the first importance. It only occupied this position for certain cotton-producing States during the early nineteenth century. There have been so many enormous demands upon the energy of our people individually and as a nation that it would have been, perhaps, surprising for us to have taken a broad national view of foreign trade and its requirements over a reasonably long stretch of time. The building of the West, with its ever receding frontier, has been, after all, the one great national undertaking that we assumed and that we fulfilled during the nineteenth century. Coincident with that gigantic conquest and cultivation, and in some respects due to it, have been the tremendous industrial advances recorded, especially in the second half of the nineteenth century, to which again we were obliged to sacrifice all our time and energy. These industrial advances were stimulated by the high labor cost and the low cost at which raw materials were producible, which resulted in the necessity of taking any measures which might save labor; and, of course, the obvious measure to take is the production and use of labor-saving machinery. What a striking contrast this was with conditions in Europe, where abundant labor was always available and is, under normal conditions, to-day; where the sources of raw materials are poor and in many instances close to exhaustion, and manufactured materials are producible only at high cost; a situation which compelled European manufacturers to concentrate their attention upon economy of material. This practice has readily permitted them at all times to adapt themselves to any foreign market; while our relative indifference to materials has not been offset, so far as foreign trade at least is concerned, by our labor-saving devices, which excel and forestall generally those in use in other manufacturing countries. Fast as our production has increased, in recent years our consumption has almost kept pace with it and our domestic market has absorbed nearly our whole output.

It must not be thought that I imply that we have never had our foreign trade traditions. That would, indeed, be a calumny if uttered in Boston. Nearly a century ago New England was busily engaged

¹ Address before the Boston City Club, Nov. 16, 1916, by Hon. Andrew J. Peters, Assistant Secretary of the Treasury.

in the foreign trade and did no small share of the shipping from Europe to the Far East and to Latin America. A people can not be engaged in that business very long before it will reach an advanced stage and actually take up the business of supplying many of the things called for by the customers of the nations for whom before it was simply the carrier. New England traders were known everywhere as carriers and came, indeed, to be known in many places as manufacturers. However transitory a visit anyone may pay to Latin America, he is certain to come upon traces of their long-continued activity. In my visit there last spring I was taken to a hacienda or big farm in the country of Argentina. There we were all entertained at a house whose bricks, windows, and woodwork were all carried out by sailing vessel from Boston. One could easily recognize its homelike New England characteristics. So great was the volume of traffic rounding the Horn that a United States squadron patrolled South America for more than half a century, with Montevideo as its headquarters. The genuine friendship that Uruguayans bear us to-day is, perhaps, to no small extent to be attributed to the traditions attaching to those frigates and to the intimacies growing out of the frequent calls of the merchant vessels to which that friendly squadron assured protection, protection not indeed from remote possibilities of hostile aggression, but from the uncertainties and inclemencies of the South Atlantic.

Nearly all that activity seemed to pass away with the Civil War; we became absorbed in the West as I have suggested. In the West capital found better return and a practical demand, one that represented the capacity for huge streams of immigrants to produce wealth in a short time. But for our gigantic immigration we might have faced the distressing conditions that beset in our own day other extensive countries with much rich land, but without a constant supply of wealth-producing immigrants. That is an evil that, perhaps, history will find to have been the ultimate cause of Mexico's miseries. We, however, had the immigrants, the capital, and a most urgent need for all the goods that capital and labor could combine to produce. Thus the last third of the nineteenth century was one of assimilation and adjustment—economic, racial and political. The dawn of the twentieth century found us, if not mature, at least with more accurate perceptions of our strength and of our possibilities.

We had not arrived at that consciousness of national purpose requisite to play a distinctive and national part in international commerce. Neither had we that business discipline which characterized the older nations—a discipline that enabled their financial and commercial cohorts to break ranks and take new formations with all the placidity and adaptability of well-trained soldiers. A self-reliance enabled them to resist attacks whether real or, what is more dangerous, fan-

cied—attacks of panic and loss of confidence. For that matter I am not sure that, half a generation later, we have these excellent and desirable qualities yet; but at least we have stood some shocks. We are getting our experience and we are likely to get a great deal more before long. Our laws, too, were developed to prevent combinations to extort prices from the domestic consumers, but these very prohibitions against combinations cripple our exporters when brought in competition with those of foreign countries where combinations are not only permitted but encouraged. But in spite of our manifest inferiority in many respects at the opening of the century we launched out into foreign trade. And among the markets that presented themselves to us was the one in which we are chiefly interested to-night—Latin America. Here was and is still an obvious opening. Broadly speaking, Latin America is one of the new quarters of the world. It has an older culture than ours, and it would be to our advantage to study the systems of thought and law and other things that count in life that dominate in Spanish and Portuguese America. Nevertheless, for lack of economic pressure and, until quite recently, of immigration and, because of the enormous extent of natural resources, there has been no general mastery and development of those resources. In most Latin American countries the people to-day are merely living on the fringe of the country, so far as natural wealth and possibilities are concerned.

The vast continent of South America and the by no means inconsiderable territory of Central America—nor ought we to forget the Latin West Indies—offer an inviting market for the widest possible variety of our products and, indeed, for products of which we have yet produced no respectable quantity for purposes of export. The chief demand in all the Latin countries is for what we may call medial products, that is to say, for those things that are directly necessary for the protection of native raw materials. Thus everything that enters into the development of railways and transportation facilities generally is an absolute necessity for every Latin American country whenever it sets out to develop its resources one stage further than that which it has reached. That surely should be a significant fact for the people of this country. They might long ago have taken vigorous steps to associate in the Latin American mind all that is new and comprehensive in railroad expansion and railroad facilities with American capital and American exporters. If we could have to our credit the completion of the Pan American Railway, which is the great inter-American railway connecting Argentina and the United States with many national railway systems constituting its respective sections, I have no doubt whatever that we should impress the Latin American business man with our ability to do international things in a big way and with our reputed efficiency even more than we have

impressed him with the Panama Canal. At present the railroads of Argentina are owned in England, and I noted with interest that the locomotives there had been made in Leeds. In Brazil I observed that only a small part of the rolling stock came from the United States, and in Chile I noted a few specimens from the Baldwin works, but for the most part the rolling stock came from England or the continent of Europe. As in railroad development so in the industries dependent upon the production of power; everywhere power houses are being constructed in Latin America in connection with municipal enterprises or the activities of public-service corporations. The machinery and, equally important, the fuel have largely to be supplied from abroad. The South American Continent has disclosed but little fuel except, perhaps, Argentina's recently discovered petroleum and the Colombian and Peruvian oil wells, both of which fields have not yet reached an advanced stage of development, and a certain quantity of coal in the southern part of Chile.

Then, too, there is a demand for manufactured articles of every possible and imaginable type, and above all those which have to do with agriculture. Uruguay, southern Brazil, and Argentina form one of the great wheat regions of the world; the demand for sugar machinery is growing constantly in the tropical sections of the continent; and the Brazillian cotton market is going to take its place some day beside that of our own South and of Egypt. Then, too, all the luxurious accompaniments of refined taste are in demand, and these tastes in Latin America are in a remarkable degree to be found everywhere and in no way inferior to those which characterize the greatest capitals of the world. The Latin American even of moderate standing enjoys a cultivated acquaintance with the fine things of Europe—with European literature and drama, with the finest costumes that Paris and London can produce—a familiarity that is, indeed, rare in the United States. And I have mentioned here only the superficial things, for the Latin American, especially if a professional man, is closely in touch with all that goes on in the European centers of his profession; he has the latest law books from Paris, the latest scientific instruments from Germany, and is constantly alive to all the intellectual currents of Europe. This intimacy between Latin America and Europe is bound to create a strong demand throughout Central and South America for articles of refinement and culture and to create there at least as excellent a market as we have in our own country for those whose business it is to supply such markets.

What has Latin America to give in return for these by no means inconsiderable demands that she makes upon the rest of the world? She can give raw products and those alone. Grain, fruit, meat, coffee, wool, hides, fine woods and dye woods, rubber, precious metals, and

industrial minerals—these are the things that Latin America has and which she proposes to exchange either for tools with which to get further supplies of raw material or for objects requisite to the ordinary carrying on of a highly organized and complex social system. Of any one of the materials that I have mentioned Latin America seems to possess an inexhaustible supply, and her capacity to meet the growing requirements of the rest of the world for these things would appear to reach as far as human vision can foretell. In proportion as the necessities of transportation are met and the difficulties of extracting and preparing for shipment or even for manufacture on the spot of these raw products, the economic wealth of Central and South America will loom larger and larger in the eyes of international economists.

Let us see briefly how these things balance and what condition will result. So far as Latin America has been developed to this stage she owes it pretty much wholly to Europe. Europe carried Central and South America as Europe long carried the United States. Is it not rather recently that we ceased to be a debt nation ourselves? To-day, except possibly for one or two Central American Republics, the Latin American world is dominated by Europe financially and commercially. The investments of Great Britain alone are really prodigious, amounting to fifty-one hundred millions of our money in public loans, national or local, in public-service corporations, and in banking and transportation. To some extent the vast trade that Great Britain enjoys with Latin America is nothing more than disguised interest upon these great investments. Great Britain has come to depend upon the food products of Latin America to such an extent that her subsidized shipping lines, which have to maintain a continuous stream of food-bearing vessels from Argentina and Uruguay to England, have always been willing to reduce the outgoing freight rates even below actual cost in order not to have the boats, which necessarily must return to South America, go out empty. That, perhaps, is the secret why the exporter from the United States has often found it cheaper to send his goods to Southampton for transmission to Latin America than to send them direct from Boston or New York. This is a thing that we must overcome.

Moreover, European banks have been in South America in some cases for nearly a century, and they have been very strongly established for over a half century. These banks are ready to give credit, and they are so closely allied with the merchant that they are always willing to back him up and enable him to sell credit, although his main business is to sell merchandise and not credit. The power of these European financial institutions is soon realized by any man who seeks to enter a Latin American market, and he is indeed grateful for the initiative and enterprise that has characterized the policy

of one of our great national banks, now opening branches throughout Central and South America.

This South American market is inviting, but we have to work fairly hard in order to earn our share therein. I have just mentioned in passing the constructive policy of a financial institution in this country; but, of course, we ought not to expect one bank to do it all. More banks have got to cooperate in handling our business for us in Latin America, and now that the Federal reserve act has been amended banks may combine to open joint branches anywhere in Latin America. Similar facility for cooperation is afforded the business man by the so-called Webb bill. This act will permit the joint operation by United States firms of foreign selling agencies; and thus what has proved a most effective machine in the hands of European business men will be available to our business man. This bill is now before Congress, and we have every reason to hope that it will be passed. We hope also for more intelligent and consistent support from the business men and from the lawyers for the work that the International High Commission is doing in the direction of simplifying and liberalizing the principles of commercial law as between the Latin American Republics and the United States. This commission, growing out of the First Pan American Financial Conference, held in Washington last year, like many other beneficial results of that conference, served greatly to promote closer financial and commercial relations between South and North America. Other means of improving our ability to meet the European competitor on something like equal terms will be the study of Latin American law in our law schools. In this way, many members of the bar will have, for a time at least, close contact with Latin American legal thought that will enable them in later practice effectively and intelligently to advise business men. Similarly, our schools must teach Spanish. It would be, in my opinion, an excellent step if a practical knowledge of Spanish based on at least two years' study were demanded of each graduate of any of our high schools, and if a similar knowledge of Portuguese as well were obtainable in our high schools of commerce. I think that the City Club might very well charge itself with the responsibility of seeing that the Boston High School of Commerce be prepared to offer such facilities.

There is one group of bankers to whom especially we must look for assistance in building up our Latin American trade. The willingness of the investment bankers to tie up money in Latin America for a long period will determine to some considerable extent the demand in Latin America for our products. Many investments exist in South American enterprises of long standing which are most conservative in character. On account of the scarcity of money in South America their income return is substantially higher

than investments of equal strength in this country. These must be investigated and placed before the people of this country. There are many other details of this sort that I could mention, including the necessity of deliberately creating here a dependable market for the other raw products of Latin America than those we normally consume, even though such a market be momentarily unprofitable. There is one thing in particular that I wish in closing to impress upon all as a vital necessity, and that is the realization that business in Latin America is normally done on the basis of the 90-day note, and not on the basis of a cash check. This is a situation that may be overcome in time, but for a good while it will exist, and we must adjust ourselves to it.

We merely want our share of Latin American trade, and none of us—I know that I can speak for the business men of the United States as a whole—wishes to elbow our European friends out of South America. We simply hope and intend that we shall not be obliged to pay toll to Europe for doing our banking or shipping business. We hope to carry our own goods and our own mails, and even if we did nothing more than raise our national prestige thereby we would offset any other loss. But we also wish to impress upon business men of America thereby the necessity of national action and cooperation.

There is even a sentimental advantage in making our merchant flag again familiar in the South Atlantic, the South Pacific, and Caribbean. After all, is it not true that trade is the practical molder of political and social bonds? Does not experience show that the clear interest of a people or group of peoples will very often shape the development of their national ideals? Latin America, as a whole, is closer to Europe than it is to us. Nevertheless, all the American peoples have a community of political ideals. All but one of the nations on the two western continents have achieved independence through struggle. Our Governments are in every instance dedicated to self-government and to peace. Conditions to-day make a mutual understanding by the people of the Americas more than ever imperative. No longer can we be sure that we can pursue these ideals unchallenged. The peoples of these great Republics should know each other and by such knowledge gain confidence and power of cooperation. They should stand united to preserve and carry on the ideals of freedom and self-government. No patronizing, condescending leadership is implied in any program of this sort, but a willingness to work together, each doing its full share. To do our full share, we should strive to develop our trade with them as soundly and fully as possible, so as safely to strengthen the economic independence of the Western Hemisphere.

THE AMERICAN NATIONAL RED CROSS

ON March 27, 1915, in the presence of a large assembly of distinguished people, among other participants in the ceremonies being the President of the United States, Woodrow Wilson, and ex-President William Howard Taft, an important event occurred in Washington, D. C. It was the occasion of the laying of the corner-stone of a beautiful marble building—"A Memorial to the Heroic Women of the Civil War"—a majestic monument consecrated to the memory of the women of the Northern and Southern States, those women who had lived and suffered during that terrible fratricidal strife that for four long years divided a great nation. That monument stands to-day a completed thing of beauty, a perpetual reminder of the heroism of those who suffered worse than death in their helpless anguish—the women who surrendered their fathers, brothers, husbands, and sons to the pitiless monster of war.

Not only in its architectural beauty is this monument appropriate; the utilitarian purpose for which it is destined adds to its worth and fitness as a testimonial to the heroic womanhood of the Nation. It is dedicated in perpetuity to the uses of the American National Red Cross, and is to be the headquarters of its administration. Surely no better, no holier office could be assigned to it than that of being the home of the greatest and most efficient organization for the alleviation of suffering and want that human love and mercy have yet been able to devise.

To trace the history of the American Red Cross and its varied activities from the time of its first organization in 1881 to the present is far beyond the scope of this brief sketch. The work of the Red Cross organizations the world over during times of war is generally well known. Their labors in times of peace, however, are matters with which the general public is less familiar, and it is in this field that the humanitarian efforts of the American Red Cross have been preeminent. The original purpose for the organization of Red Cross societies was to supplement the medical services of armies in times of war. The great need, however, of a thoroughly-trained and efficient organization, national in scope and permanent in character, to render assistance after great disasters has become so manifest that many of these societies have extended their functions to include relief operations in times of peace, and in no country has this phase of the work

been so systematically developed and perfected as in the United States.

The permanent establishment of Red Cross societies in practically all of the civilized countries of the world was the result of an international conference held in Geneva, Switzerland, in 1863, followed by an international convention at the same place the next year. According to the terms of this treaty, to which the nations who had sent delegates subsequently subscribed, all hospitals and hospital officials and certain volunteer organizations engaged in attending the sick and wounded in war are regarded and treated as neutrals. To distinguish the members of these volunteer organizations, an insignia or badge was adopted, a red Greek cross on a white ground. Hence the name of the international organizations which grew out of this movement—the Red Cross societies.

It was largely through the efforts of Clara Barton, the noble woman whose heroic and unselfish services to the sick and wounded during the Civil War had given her even more than national fame, that the American branch of the Red Cross was first incorporated under the laws of the District of Columbia in 1881 and later became a national institution. In 1882 the United States Government, by an act of Congress, officially joined the other nations in adherence to the Geneva convention, and upon the organization of the national society Miss Barton, at the instance of President Garfield, was made its first president. The organization was reincorporated in 1893, its purposes being declared to be the relief of suffering due to war, pestilence, famine, flood, fires, and other calamities of sufficient magnitude to be deemed national in extent, and Miss Barton remained president until 1904.

To enumerate in detail the activities of the American Red Cross during these early years of its existence would require the writing of a book. Among the great disasters that gave the new organization opportunities to demonstrate its usefulness in the alleviation of human suffering and misfortune were the forest fires in Michigan in 1882; the Ohio and Mississippi River floods of 1883, followed by the still more devastating floods in the same regions during the next year; the famine in large portions of the State of Texas in 1886, following a two-year period of drought; a cyclone which laid in ruins the thriving city of Mount Vernon, Ill., in 1888; the terrible yellow fever epidemic which ravaged the State of Florida and several other Southern States during the same year; the Johnstown, Pa., flood in 1889, which wiped out of existence an entire city; the Russian famine in 1891, following the crop failures in central Russia during the two preceding years; the hurricane and tidal wave which swept the coast of South Carolina in August, 1893, leaving over 30,000 negroes of the Port Royal Islands destitute of homes, clothing, and food, some 5,000 having



Photo by Harris & Ewing, Washington, D. C.

THE NEW HOME OF THE AMERICAN NATIONAL RED CROSS, WASHINGTON, D. C.

This beautiful memorial to the heroic women of the Civil War, which will be the national headquarters in perpetuity of the American Red Cross, is built of white Vermont marble in a style of architecture known as Georgian-Colonial. Around the building are stately Corinthian columns, two stories in height, with ornamental cornice above, surmounted with a balustrade around the attic story. The interior columns and the entrance hall are of Doric design, while the decoration of the large assembly room is Colonial with Corinthian pilasters and cornice, surmounted by a coiled ceiling with pateras. A marble tablet on the landing of the main stairway bears the words: "A Memorial Erected by the United States Government and Patriotic Citizens to the Women of the North and the Women of the South, Held in Loving Memory by a New United Country, That Their Labors to Mitigate the Sufferings of the Sick and Wounded in War May Be Forever Perpetuated, This Building is Dedicated to the Service of the American Red Cross."

been drowned by the sea; the Armenian massacres by the Turks during the year 1895, resulting in the utter devastation of the country and the death of many thousands from starvation and disease, in addition to those killed by the atrocities of the Kurds and other Turkish troops; the Cuban revolution in 1896; and, finally, the horrible catastrophe at Galveston, Tex., in 1900, when a tidal wave engulfed the city, drowning thousands and rendering destitute and helpless many thousand more. The relief measures of the Red Cross during these disasters proved the value of systematic organization. Shelter for the homeless, clothing for the naked, food for the starving, medicine and nursing for the sick and wounded, in short, every form of relief that human kindness and pity could devise was given to the unfortunate sufferers. Money, food, clothing, supplies of every kind were donated by charitable organizations, by governmental and official agencies, and by private citizens, and by means of the organization of the Red Cross distributed as wisely and judiciously as possible under the circumstances of each case as it arose.

The period of probation of the American Red Cross had passed. Its value as an agency for the amelioration of suffering its successful work of mercy during this experimental stage of its existence had fully demonstrated. In order to meet the constantly growing demands, more thorough organization and a still greater expansion was necessary. Recognizing this fact, the United States Congress, by the act approved January 5, 1905, incorporated the American National Red Cross and placed it under Government supervision, declaring its purposes, in addition to its duties in time of war to be: "To continue and carry on a system of national and international relief in time of peace and apply the same in mitigating the sufferings caused by pestilence, famine, fire, floods and other great national calamities, and to devise and carry on measures for preventing the same."

Miss Barton had resigned the office of president in 1904, and after the new act of incorporation a complete reorganization followed. The official organization as it now obtains may be briefly outlined as follows:

Its officers are a president, vice president, national director, secretary, counselor, and treasurer. The act of incorporation provides that "The governing body of the said American Red Cross shall consist, in the first instance, of a central committee numbering eighteen persons." The law also provides that the chairman and five members of the central committee shall be appointed annually by the President of the United States, the five members appointed by the President to represent the Departments of State, War, Navy, Treasury, and Justice. Six members are elected by the board of incorporators and six by the delegates to the annual meeting.

The central committee is empowered by law to elect from its own members an executive committee of seven, to which is given all power of the central committee when the latter is not in session.

The by-laws provide for three relief boards—namely, the war relief board, the national relief board, and the international relief board. To each of these boards have been assigned special duties in connection with its particular department of relief operations.

The first-aid department and the nursing service are under the direction of two committees appointed by the war relief board. The first-aid committee is engaged in promoting first-aid instruction among the employees of mining companies, railroads, industrial establishments, and the public at large; the committee on nursing service is engaged in the organization of a large corps of the best trained nurses of the country for service under the Red Cross in time of war or disaster.

The organization, being under the supervision of the United States Government, is required by law to make an annual report of its proceedings and to render an accounting of its receipts and disbursements to the Secretary of War. These reports are transmitted to Congress and subsequently published as public documents.

As a means of promoting the efficiency of the American Red Cross and of having it prepared for emergencies, an endowment fund has been created. This endowment fund provides an income which defrays in part the expenses of a continuous educational campaign in first aid and nursing work; keeps up a reserve organization of high-grade trained nurses; helps meet numerous minor relief appeals, and makes it possible for the national director and his assistants to keep the organization for relief work ready for instantaneous action.

Some idea of the magnitude of the operations of the American Red Cross from its reincorporation in 1905 to June, 1915, may be had when it is stated that during this 10-year period it conducted over 75 relief operations following earthquakes, volcanic eruptions, fires, floods, famines, mine explosions, and wars in various parts of the world, and that the total amount received and expended, including donated supplies, was not less than \$13,500,000.

Of the various service departments of the organization which are active in time of peace, perhaps none is of greater utility than the first-aid department. In order to bring a knowledge of accident prevention and of first aid within the reach of industrial workers and other classes of people throughout the country, the first-aid department of the American Red Cross was established in January, 1910. It is under the direction of an officer of the Medical Corps of the United States Army, and has a staff of physicians who are available for detail as instructors in mines, lumber camps, railroads, telephone and electric works, and other spheres of labor peculiarly subject to

serious accidents. The scope of this department was recently increased by the organization of the American Red Cross life-saving corps, whose activities are employed in minimizing the dangers from drowning, teaching others the best methods of saving drowning persons, and the utilization of preventive measures against accidents at sea or other bodies of water.

The first-aid department maintains two instruction cars on the railroads of the United States, one in the territory east of the Mississippi River and the other in the section west of it, and instruction is given to railroad employees by the physicians in charge of each car. The annual death rate due to accidents on railroads, in mines, and other industries is very great, and it is the hope of the department to materially reduce the number of preventable accidents and to minimize the ill effects following accidents by instruction thus given. Incidentally, individuals who have been instructed by this department are expected to assist the Red Cross in time of war, and under its direction, physicians, surgeons, hospital attendants, etc., will be assembled into Red Cross columns and other organizations for use in the field of operations.

Another important feature is the Red Cross nursing service. During the last few years there has developed in the United States the largest organization of trained nurses in the world, and the American Red Cross, quick to realize the advantages of cooperation with this representative body of women, brought about the affiliation of the American Nurses' Association with its own organization, and a national committee on Red Cross nursing service was appointed by the war relief board in 1909. This service is now composed of a national committee, 36 State committees, and 96 local committees. About 600 nurses are serving without pay on these committees, and through their efforts 6,000 nurses have been enrolled for service under the Red Cross.

Through the nursing service the Red Cross has undertaken another great work. This consists in carrying into the homes of the people a better knowledge of the underlying principles of health, the prevention and care of illness through the establishment of a town and country nursing service, by means of which classes of instruction are being organized for women in elementary hygiene and home care of the sick throughout the remote and sparsely settled sections of the country.

Another important activity of the American Red Cross is its remarkable campaign against the ravages of tuberculosis. The funds for this work are raised by means of the annual sale of what are known as the Red Cross Christmas seals. These seals look much like ordinary postage stamps and people all over the country buy them, using them as seals on letters, parcels, etc., sent through the mails during

the Christmas season. The gross receipts from the sale of these seals from 1908 to 1915, inclusive, aggregated over \$3,295,000, and practically all of this amount has been used by the local branches and the national organization in the campaign for the study and prevention of tuberculosis. It is interesting to note the remarkable gain each year in the amount of money secured for this laudable purpose. The plan was nationalized in 1908, and the amounts thus obtained each year are as follows: In 1908, \$138,244; in 1909, \$237,153; in 1910, \$304,320; in 1911, \$339,656; in 1912, \$384,999; in 1913, \$436,214; in 1914, \$550,000; and in 1915, over \$800,000. The far-reaching and broad policy under which this annual crusade is conducted results in 90 per cent of the proceeds from the sale of these Red Cross seals remaining in the community where the seals are sold, so that every little village in the country can receive direct benefit. The remaining 10 per cent is devoted to the printing of the seals, to operating expenses incident to the campaign, and for the work of the National Association for the Study and Prevention of Tuberculosis.

In regard to the humanitarian efforts of the American Red Cross in foreign fields perhaps no better example of its methods can be cited than the work in certain provinces in China which have for many centuries been subject to disastrous floods. Aside from the collection and wise distribution of large sums of money and hundreds of tons of supplies of food, clothing, medicines, etc., to relieve the immediate suffering of thousands of homeless and starving people after each of these constantly recurring disasters, the Red Cross determined to strike at the root of the trouble by having expert engineers to study the worst of these flood areas with the view of eventually installing a gigantic drainage and reclamation system.

In cooperation with the Chinese Government an American engineer was therefore employed to make preliminary examination of the basin of the Huai River and adjacent portions of the great plain of eastern China, where the most disastrous floods have been recurring every few years for the past 40 centuries. The engineer recommended that certain surveys be made, including an elaborate system of levels connecting the affected region with the coast along various alternative routes. These surveys were made by Chinese engineers and their results became available early in 1913. The American Red Cross then promptly organized an expedition of expert hydraulic engineers, with Col. Wm. L. Sibert, of the United States Army Engineering Corps, at the head and assisted by such eminent engineers as Arthur P. Davis, chief engineer of the United States Reclamation Service, Prof. Daniel W. Mead, of the University of Wisconsin, and 10 other American engineers, besides a number of expert Chinese assistants. This expedition went over the whole ground during the summer of 1913, made a detailed report, and recommended a project which, if

carried out, will permanently relieve the situation. In concluding an account of this project Mr. A. P. Davis writes:

The works recommended by the board would require the excavation of about 375,000,000 cubic yards of material, which it is estimated can be accomplished at an expenditure of \$30,000,000, including the necessary locks and regulating works. A very conservative estimate of direct benefits to more than 7,000,000 acres of land affected places these benefits at a value of \$48,350,000. In addition to this, numerous incidental benefits and the improvement of navigation will greatly stimulate industry, add to the prosperity of the region, and produce substantial returns.

It is expected that as soon as possible the Chinese Government will raise the necessary funds to undertake this great work, thus putting an end to suffering and privation which has lasted for centuries and but for the intervention of the American Red Cross might have endured throughout coming centuries.

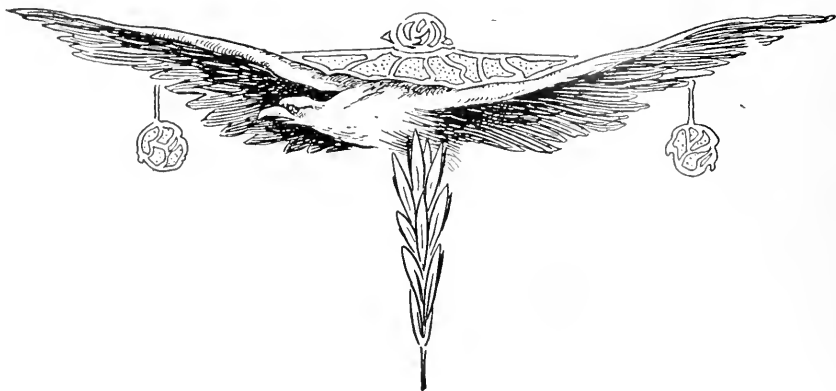
Of the tremendous work of the American Red Cross in the relief of suffering due to the present European war it is not possible to write adequately at present. Never before has the Red Cross organization, or any other organization for that matter, of a neutral country rendered such long and extensive service to other nations engaged in war. In the rendering of this service the American Red Cross has shown no favoritism. A statement by Miss Mabel T. Boardman, member of the central committee, published in the August, 1915, number of the American Red Cross Magazine, gives a summary of the first year's work, of the vast supplies of medical and surgical necessities provided, of the amount collected and distributed, and other details that demonstrate the remarkable efficiency of the organization. In personnel the American Red Cross has sent to the various belligerent countries 71 surgeons, 253 trained and skilled nurses, and 43 trained sanitary commissions. It had collected for its noble work—up to July, 1915—in general contributions, \$1,560,124; special contribution from the Serbian Agricultural Relief Committee, \$10,000; from the Rockefeller Foundation—for the sanitary commissions—\$65,000. Of this total of \$1,635,124 the sum of \$1,460,306 had been spent in cash remitted, in salaries and expenses, transportation, maintenance, supplies of all kinds, etc. In concluding her statement Miss Boardman enumerates the beneficiaries of this generous work as follows:

Funds have been transmitted to aid in the maintenance of the work of the American ambulance at Paris; the American Women's Hospital at Paignton; the American Red Cross hospitals at Munich; the hospitals at Gleichwitz and Kossel, Germany; hospitals at Vienna and Budapest; the Alliance Hospital at Yvetot; the hospital at Kief, Russia; the American Relief Clearing House at Paris; the Prisoners' Bureau of the International Committee of Geneva; the Belgian relief in Holland; the Red Cross of the Netherlands; the British, French, and American mission hospitals in Turkey; the English hospital at Smyrna; hospital and relief work at Beirut, Syria; Jewish relief in Palestine; refugee relief at Tabriz, Persia; relief of Austrian and German prisoners in Siberia; the British Red Cross intelligence department; for the transportation of wounded from the front; and to assist those totally blinded by war.

Perhaps the greatest work of the American Red Cross during this war has been its remarkable success in conquering the typhus epidemic in Serbia and Montenegro. Two eminent surgeons of the Red Cross lost their lives in this heroic fight for the sake of the people of an alien country, Dr. James F. Donnelly, of Brooklyn, N. Y., and Dr. Ernest P. Magruder, of Washington, D. C. Dr. Richard P. Strong was the director of the sanitary commission sent by the American Red Cross, aided by funds supplied by the Rockefeller Foundation, and the success of the fight against the epidemic is attested by the following excerpt from a letter to the American Red Cross written by the celebrated English yachtsman, Sir Thomas Lipton:

The work that has been performed by Dr. Strong and his staff has been miraculous in the way of killing this disease (typhus). Many hospitals that I visited the last time I was in the country were full of typhus cases, but this time I called they had none. At Uskub, the headquarters of Dr. Strong, some of the hospitals are closing up. I could hardly believe that in such a short time the staff you sent out here could have made such a change. The terrible sights that I witnessed in connection with typhus when I was in Serbia the first time are now finished.

The limited space available for this sketch has given opportunity to merely mention a few of the most prominent activities of the American Red Cross. Volumes could be written in regard to the humane work it is accomplishing under its able direction by experts in every department. At the head of the organization stands the President of the United States, who is also ex officio president of the American Red Cross and presides at its national meetings. On the central committee, the governing body of the organization, are some of the ablest and most distinguished men of the Nation from the Departments of State, War, Navy, Treasury, and Justice, as well as from the ranks of private life, while one of its guiding spirits is a noble woman, Miss Mabel T. Boardman. The ability of its leaders has made it the greatest general relief organization known.



PROMINENT IN PAN AMERICAN AFFAIRS

IN May of 1916, Sr. Don FRANCISCO DOXOSO CARVALLO was appointed assistant secretary of foreign affairs of the Republic of Chile. The appointment was received with much satisfaction not only in Chile but in many of the countries of South America. For 20 years Sr. Carvalho has been connected with the public service of that country both at home and abroad, and during that period he displayed such ability, poise, integrity, and energy, that this high assignment was looked upon as a fitting recognition of merit and qualification. The experience he acquired while serving in other countries has given him prestige and influence, and developed wide sympathies in his viewpoint.

Sr. Carvalho commenced his career in 1894 as an attaché in the department of foreign affairs at Santiago. Four years later he was promoted to the position of second secretary of the legation of Chile in Bolivia. In 1900 he was transferred in the same capacity to the legation at Lima, Peru.

Sr. Carvalho returned to Bolivia in 1907 as consul general. After four years of faithful service in that capacity he was promoted to the rank of chargé d'affaires. He discharged this office from 1911 to 1913 when he was called back to the capital to become assistant secretary of war. Three years later he was appointed by the President to his present position, assistant secretary of foreign affairs.

Sr. Carvalho is a member of learned societies of Europe and America and has received decorations from the Cuban, Italian, and Venezuelan Governments.

A diplomatic appointment of interest to Latin America is found in the assignment of Sr. Don JOSÉ MARÍA BARRETO to the position of chargé d'affaires of Peru in Mexico. He had previously served in a similar capacity at La Paz, Bolivia, and his transfer to the legation at Mexico City is regarded as a distinct recognition of his services. Before entering the diplomatic service, Sr. Barreto was a journalist of considerable note in Peru. For many years he was identified with the official paper of that country, *El Peruano*, and finally resigned the position of editor to enter the diplomatic service. Sr. Barreto has contributed numerous articles and essays on international questions of interest to Europe and America. He is a corresponding member of the Royal Academy of History of Madrid, and is also a member of the American Society of International Law of Washington, D. C.



FRANCISCO DONOSO CARVALLO.



JOSÉ MARÍA BARRETO.



EDUARDO RAYBAUD.



Photo by Harris & Ewing.
ALFRED T. SMITH.

One of the most popular members among the Army and Navy officers attached to the embassies and legations at Washington, D. C., is Col. EDUARDO RAYBAUD, military attaché of the Argentine Embassy. The colonel has been in the Argentine Army for over 30 years and during that period has enjoyed many interesting experiences as well as the usual hardships of active service. Born in the city of Buenos Aires, he entered the National Military School at the age of 14, and was graduated therefrom in 1886. He immediately joined the army as sublieutenant and in 1896, as captain, was assigned to frontier duty. The following year he was raised to the rank of major and commissioned to survey certain Andean passes in the Neuquen territory. In 1903 he was promoted to the rank of lieutenant colonel and called to Buenos Aires to command the First Regiment of Mounted Grenadiers, a regiment founded by San Martín in 1812 and to-day wearing the same uniform that was originally designed for them. Upon promotion to the rank of colonel, he was sent to Europe to study the armies and military systems of those countries. In 1910 Col. Raybaud was appointed military attaché of the legation in London. During Col. Roosevelt's visit to Argentina, Col. Raybaud was assigned as aide to him. In 1914 Col. Raybaud came to Washington as military attaché, and has traveled considerably through the United States visiting the military forts.

Maj. ALFRED T. SMITH, United States Army, who has recently been appointed United States military attaché to its embassy in Buenos Aires, Argentina, sailed for his post, via Panama and the West Coast of South America, on November 20. Maj. Smith was accompanied by his wife. The designation of Maj. Smith for this position has been received with favor by his numerous friends both in military and private circles. He is one of the most popular officers in the United States Army, and reached his present high position from the rank of private by reason of ability and service. Maj. Smith has been in the Army nearly 22 years. He saw active service in the campaign of Santiago de Cuba during the Spanish-American War, and in the Philippine Islands during the insurrection there. For the past two years he has filled various positions of responsibility on the Mexican border. Maj. Smith succeeds Col. David L. Brainard, who will return to Washington on the arrival of the major in Buenos Aires.



EXPORT OF CHILEAN NITRATE

THERE was only a slight increase in the export of nitrate from Chile in 1915 over the export in 1914, and both years fell much below the figures of 1913. In 1915 there was, however, a very considerable change in the destination, as shown in comparison with the tables for the two preceding years.

The following shows the exports by countries, in metric quintals of 220.46 pounds each, for 1913, 1914, and 1915:

Countries.	Metric quintals.		
	1913	1914	1915
United Kingdom	9,806,747	6,570,193	5,910,365
Germany.....	6,323,456	3,622,171	.....
United States.....	5,721,955	5,533,327	8,640,552
France.....	1,626,640	866,343	786,541
Belgium.....	1,235,080	798,328	.....
Netherlands.....	995,626	783,668	379,632
Japan.....	318,871	203,010	456,411
Spain.....	241,905	.....	399,727
Italy.....	123,007	182,307	409,976
Egypt.....	102,246	265,861	562,828
Denmark.....	.....	130,401	325,572
Sweden.....	.....	213,942	104,742
Australia.....	.....	38,456	268,796
Portugal.....	.....	.....	171,621
Russia.....	.....	.....	450,970
Cape Colony.....	.....	.....	147,812
On orders.....	.....	.....	608,780
Other countries.....	164,473	44,450	286,615
Total.....	26,660,006	19,252,457	19,910,940

The exports in 1915 noted as "on orders" were for the most part to England, France, and the allied countries.

According to a bulletin just issued by the International Institute of Agriculture at Rome, Italy (section of statistics), the export of nitrate on orders for the first six months of 1916 was 13,560,290 quintals, of which 6,317,640 quintals went to the United States, 519,210 to the United Kingdom, 1,205,060 to France, 390,630 to the Netherlands, 370,730 to Russia, 285,660 to Denmark, 131,360 to Italy, 122,850 to Spain, and 3,634,470 to Europe, including Mediterranean ports.



PAN AMERICA IN THE MAGAZINES

Two Book Hunters in South America, by Belle and Kermit Roosevelt, in the October number of *The Bookman* (New York), is a delightful account of attending auctions and book sales and digging into the recesses of quaint old-book stores and shops in some of the leading cities of South America in search of rare volumes, gone out of print perhaps for centuries, but known and loved by the real bibliophile regardless of the language, race, or nationality of the author or translator. That so many treasures were picked up by this pair of young booklovers in the places visited is quite remarkable, and the following excerpts from their story will prove of interest and perhaps cause no little envy in the ranks of the book collectors of the United States as well as elsewhere:

Most Brazilians, from Dr. Lauro Müller, the minister of foreign affairs, to the postmaster of the little frontier town, have at some time in their lives published or at all events written, a volume of prose or verse. It comes to them from their natural surroundings, and by inheritance. * * * There is, therefore, in Brazil an excellent and widely-read native literature, and in almost every home there are to be found the works of such poets as Goncalves Diaz and Castro Alves, and historians, novelists, and essayists like Taunay, Couto de Magalhães, Alencar, and Coelho Netto. Taunay's most famous novel, *Innocencia*, a tale of life in the frontier State of Matto Grosso, "the great wilderness," has been translated into seven languages, including the Japanese and Polish. The literature of the mother country is also generally known; Camões is read in the schools, and a quotation from the *Lusiads* is readily capped by a casual acquaintance in the remotest wilderness town. Portuguese poets and playwrights like Almeida Garrett, Bocage, Quental, and Guerra Junqueira, and historians and novelists such as Herculane, Eça de Queiróz, or Castello Branco are widely read.

In Brazil, as throughout South America, French is almost universally read; editions of the classics are found in most homes, and bookstores are filled with modern French writers of prose or verse—sometimes in translation and as frequently in the original. Rio de Janeiro and São Paulo abound in old-book stores, which are to be found in fewer numbers in other of the large towns, such as Manaus, Para, Pernambuco, Bahia, Curitiba, or Porto Alegre. In the smaller towns of the interior one runs across only new books, although occasionally those who possess the "flair" may chance upon some battered treasure.

The line which is of most interest, and in South America presents the greatest latitude, is undoubtedly that of early voyages and discoveries. Probably it was because they were in a greater or less degree voyagers or explorers themselves, that the Americans and English who came to South America 70 or 80 years ago brought with them books of exploration and travel, both contemporary and ancient. Many of these volumes, now rare in the mother country, are to be picked up for a song in the old-book stores of the New World.

The accounts of the Conquistadores and early explorers, now in the main inaccessible except in great private collections or museums, have frequently been reprinted,



D. F. SARMIENTO.



BARTOLOMÉ MITRE.

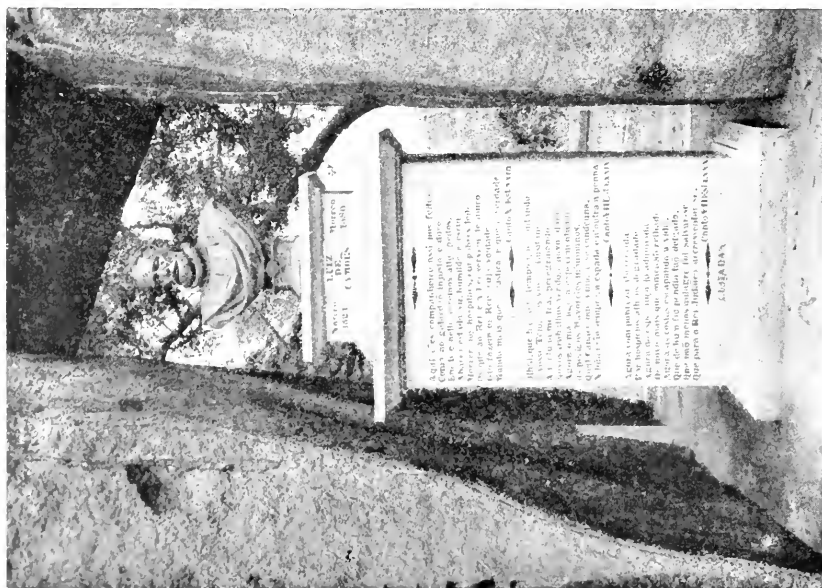
and if written in a foreign tongue, translated, in the country which they describe. Thus the account of Père Yveux was translated and printed in Maranhão in 1878, and this translation is now itself rare. We picked up a copy for 50 cents in a junk store in Bahia; but in São Paulo had to pay the market price for the less rare translation of Hans Stadel's Captivity. Ulrich Schmidel's entertaining account of the 20 years of his life spent in the first half of the sixteenth century in what is now Argentina, Paraguay, and Brazil, has been excellently translated into Spanish by an Argentine of French descent, Lafoyne Quevedo, the head of La Plata museum. We had never seen the book until one day at the judicial auction held by the heirs of a prominent Argentine lawyer. * * * The books were being sold in ill-assorted lots, and this one was with three other volumes; one was an odd volume of Italian poetry, one a religious treatise, and the third a medical book. Bidding had been low, and save for standard legal books the lots had been going at \$2 or \$3 apiece. Our lot quickly went to \$5. There was soon only one man bidding against us. We could not understand what he wanted, but thought that perhaps the Schmidel was worth more than we had imagined. Our blood was up and we began trying to frighten our opponent by substantial raises; at \$14 he dropped out. The dealers in common with everyone else were much intrigued at the high bidding; and clearly felt that something had escaped them. The mystery was solved when our opponent hurried over to ask what we wanted for the old volume of Italian verse; it belonged to him and he had loaned it to the deceased lawyer shortly before his death. We halved the expenses and the lot; and as a curious sequel, later found that the medical book, which quite accidentally had fallen to our share, was worth between \$15 and \$20.

Prices in Brazil seemed high in comparison with those of Portugal and Spain; but low when compared with Argentina. On the west coast we found books slightly less expensive than in Brazil, where, however, the prices have remained the same as before the war, though the drop in exchange has given the foreigner the benefit of a 25 per cent reduction. There are a fair number of auctions, and old books are also sold through priced lists, published in the daily papers. We obtained our best results by search in the bookshops. It was in this way that we got for \$3 the first edition of Castelleux's *Voyage dans la Partie Septentrionale de l'Amerique* in perfect condition, and for \$1 Jordan's *Guerra de Paraguay*, for which a bookseller in Buenos Aires had asked, as a tremendous bargain, \$12.

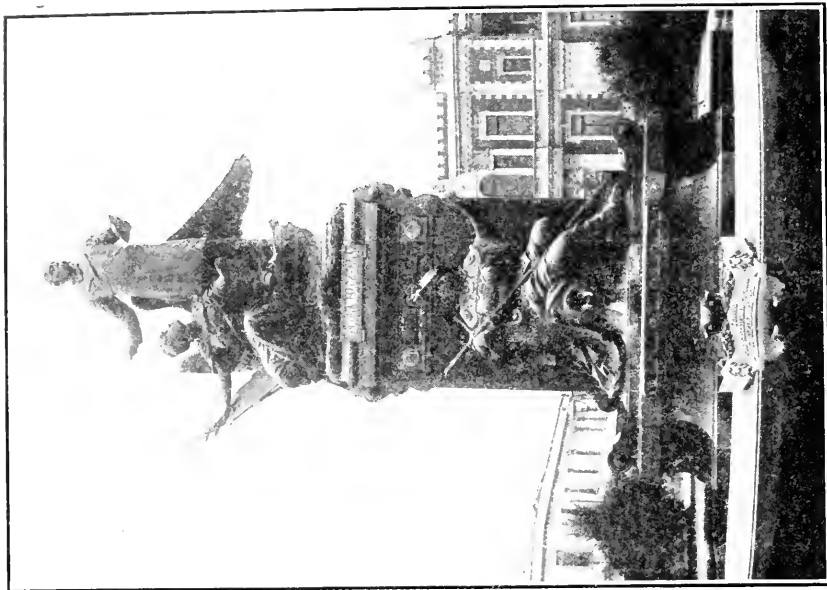
In São Paulo after much searching we found Santos Saraiva's paraphrase of the Psalms, a famous translation quite as beautiful as our own English version. The translator was born in Lisbon. His father was a Jewish rabbi, but he entered the Catholic Church, became a priest, and went to an inland parish in southern Brazil. After some years he left the church and settled down in a small, out-of-the-way fazenda, where he translated the Psalms and also composed a Greek lexicon that is regarded as a masterpiece. He later became instructor in Greek in Mackenzie College in São Paulo, confining his versatile powers to that institution until he died. * * *

Among the pleasantest memories of our life in Buenos Aires are those of motoring in to a sale, from our house in Belgrano along the famous Avenida Alvear on starlit nights, with the Southern Cross high and brilliant. Occasionally when the books we were interested in were far between, we would slip out of the smoke-laden room for a cup of unrivaled coffee at the Café Paulista, or to watch Charlie Chaplin as "Carlitos" amuse the Argentine public. The great percentage of the books one sees at auctions or in bookstores are strictly utilitarian; generally either on law or medicine. In the old-book stores there are, as in Boston, rows of religious books on which the dust lies undisturbed. * * *

Argentines are justifiably proud of Bartholome Mitre, their historian soldier, who was twice President; and of Sarmiento, essayist and orator, who was also President, and who introduced the educational reforms whose application he had studied in the



Photograph by Reginald Gorham.
STATUE OF CAMOES IN THE PORTUGUESE COLONY AT
MACAO, CHINA.



MONUMENT TO VICUÑA MACKENNA IN SANTIAGO, CHILE.

United States. Mitre first published his History of General Belgrano, of revolutionary fame, in two volumes in 1859. It has run through many editions; the much enlarged one in four volumes is probably more universally seen in private houses than any other Argentine book. The first edition is now very rare and worth between \$40 and \$50; but in a cheap Italian stationery store we found a copy in excellent condition and paid for it only \$4.50. The edition of 1887 brings anywhere from \$20 to \$30. Many copies were offered at sales, but we delayed in hopes of a better bargain, and one night our patience was rewarded. It was at the fag end of a private auction of endless rooms of cheap and tawdry furniture that the voluble auctioneer at length reached the contents of the solitary bookcase. Our coveted copy was knocked down to us at \$8. * * *

English books generally go reasonably at auction. We got a copy of Page's Paraguay and the River Plate for 25 cents, but on another occasion had some very sharp bidding for Wilcox's History of Our Colony in the River Plate, London, 1807, written during the brief period when Buenos Aires was an English possession. It was finally knocked down to us at \$12; and after the auction our opponent offered us twice what he had let us have it for; we don't yet know what it is worth. The question of values is a difficult one, for there is little or no data to go upon; in consequence the element of chance is very considerable.

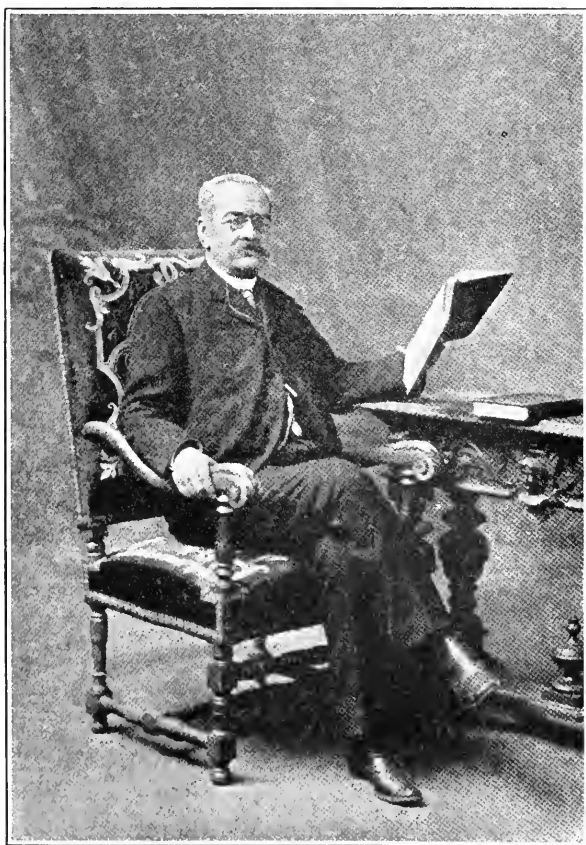
One of their best finds was made in a combination book, cigar, and stationery shop where, among other treasures, they found a "battered old copy of Byron's poems, which had long since lost its bindings." Pasted in this dilapidated old volume was an original and hitherto unpublished letter of Byron's, addressed to Monsieur Galignani, 18 Rue Vivienne, Paris, in which the poet demands the contradiction of an advertisement which seems to have been published in Galignani's journal and which credited Byron with the authorship of a work called *The Vampire*. The letter is an excellent example of Byron's sarcastic humor, though couched in very courteous terms, and is given in full in the Roosevelt's article. Another feature that is interesting is that the copy of poems had been published by Galignani in 1828, while the letter itself was dated at Venice, April 27, 1819.

In regard to their quest in Chile and Peru they write in part as follows:

As in Argentina, the best known Chilean writers are historians or lawyers, and in our book hunts in Santiago we encountered more or less the same conditions that held in Buenos Aires. * * * The works of certain well-known historians, such as Vicuña Mackenna and Amonategui, consistently command relatively high prices; but as a whole books are far cheaper on the west side of the Andes. One long afternoon in the Calle San Diego stands out. It was a rich find, but we feel that the possibilities of that store are still unexhausted. That afternoon's trove included the first edition of Mungo Park's *Travels* with the delightful original etchings; a History of Guatemala, written by the Dominican missionaries, published in 1619, an old leather-bound folio in excellent shape; a first edition of Holmes's *Autocrat of the Breakfast Table*; and three of the eight volumes of State Papers and Public Documents of the United States. In these last there was James Monroe's bookplate, and it was curious to imagine how these volumes from his library had found their way to this country. * * *



ANTONIO GONÇALVES DIAS.



DR. RICARDO PALMA.

Our South American bookhunting ended in Lima, the entrancing old city of the Kings, once the capital of the New World, and not yet robbed by this commercial age of its glamour. * * * We shall always feel that with more time, much patience, and good luck we could have unearthed many treasures; although at first sight the field is not a promising one, and as elsewhere one's acquaintances assure one that there is nothing to be found. In spite of this, however, we came upon a store that appeared teeming with possibilities. Without the "flaire" or much luck it might be passed by many times without exciting interest. Over the dingy grated window of an old colonial house is the legend "Encuadernacion y Imprenta" (binding and printing). Through the windowpanes may be seen a row of dull law books; but if you open the big gate and cross the patio, with its ancient hand-well in the center, on the opposite side are four or five rooms with shelves of books along the walls, and tottering and fallen piles of books scattered over the floor. Here we picked up among others an amusing little old vellum-covered edition of Horace, printed in England in 1606, which must have early found its way to South America, to judge from the Spanish writing on the title-page. We also got many of the works of Ricardo Palma, Peru's most famous writer, who built up the ruined national library, which now possesses some 60,000 volumes, of which a twelfth part were donated by our own Smithsonian Institution. One of the volumes we bought had been given by Palma to a friend, and had an autograph dedication which in other countries would have greatly enhanced its value, but which, curiously enough, seems to make no difference in South America. In Buenos Aires we got a copy of the "Letters from Europe" of Campos Salles, Brazil's great President, which had been inscribed by him to the Argentine translator. Once in Sao Paulo we picked up an autographed copy of Gomes de Amerim, and in neither case did the autograph enter into the question of determining the price.

The November, 1916, number of The Annals, bimonthly publication of the American Academy of Political and Social Science, is given up entirely to the subject of America's Changing Investment Market. Dr. E. M. Patterson, professor of economics, Wharton School of the University of Pennsylvania, assistant editor of *The Annals*, was in charge of this number.

The general subject is treated in four parts: I, International Investments Before the European War; II, Influence of the European War; III, Capital Needs of the Near Future; IV, The United States in the Investment Market. Preceding the general discussion are papers by Prof. Edwin Walter Kemmerer on the "Theory of foreign investments" and by William English Walling on the "Prospects for economic internationalism."

Part III, Capital Needs of the Near Future, is for the greater part a study of the needs for capital in Latin America, treated in 19 papers, with an introduction by William H. Lough, formerly special agent, United States Department of Commerce. Each of the 19 papers deals with a single country and all are written by men having special and intimate acquaintance with the financial and economic needs of the countries in question. The paper on Argentina is by Joseph Wheless, of St. Louis, Mo.; on Bolivia, by J. C. Luitweiler of the National City Bank, New York; on Brazil, by Andrew J. Peters, Assistant Secretary of the Treasury, Washington; on Chile, by G. L. Duval, of Wessel, Duval & Co., New York; on Colombia, by Edward

H. Mason, Glencoe, Ill.; on Costa Rica, by Walter Parker, general manager New Orleans Association of Commerce; on Cuba, by A. G. Robinson, Washington; on the Dominican Republic, by Jacob H. Hollander, professor of political economy, Johns Hopkins University; on Ecuador, by F. I. Kent, vice president Bankers' Trust Co., New York; on Salvador, by Frederick F. Searing, Paterson, N. J.; on Guatemala, by John Clausen, Crocker National Bank, San Francisco; on Honduras, by W. S. Valentine, president New York & Honduras Rosario Mining Co., New York; on Mexico, by James J. Shirley, New York; on Nicaragua, by W. L. Saunders, Ingersoll-Rand Co., New York; on Panama, by A. G. Clapham, president Commercial National Bank, Washington; on Paraguay, by William W. White, consul general of Paraguay, New York; on Peru, by John H. Fahey, publisher, Boston; on Uruguay, by H. A. Wheeler, vice president Union Trust Co., Chicago; and on Venezuela, by Francisco J. Yánes, Assistant Director Pan American Union, Washington.

These 19 papers, in consideration of the particular needs of each country in the matter of capital, disclose a general similarity and at the same time a great diversity. Similarities are due to the fact that all of the countries are underdeveloped and require foreign capital and foreign immigration as well. New industries need to be inaugurated and old industries to be further developed and strengthened. In very few of the countries is railway and water transportation facilities at all adequate to the needs of internal and external commerce. Latin America for the most part was financed by Europe. Government and private loans were secured there, in many cases not to the extent needed, but nevertheless Europe was almost the only market for capital. This is all changing or already changed. European debts are falling due and must be met by borrowings elsewhere. The dissimilarities in the needs of the countries are due for the most to dissimilarities in natural conditions, geographical location, climate, rainfall, soil, mineral deposits, and land contours.

The writers whose names are given above have found the particular capital needs of the countries to be—

Argentina: Railway financing, telegraphs and telephones; industrial development, and in particular manufacturing.

Bolivia: Railroads, mining, public utilities; in particular, municipal water and sewerage.

Brazil: Railroads.

Chile: Maturing loans, internal development, agriculture, and mining.

Colombia: In the establishment of a stable gold-secured currency, public works, railway extension. Mr. Mason is of the opinion that the lack of straight banking capital in Colombia is a great handicap to the country.

Costa Rica: Adequate commercial credit facilities, internal development, mining, and agriculture.

Cuba: Mr. Robinson is of the opinion that there are at present no important demands for money from Cuba.

Dominican Republic: Prof. Hollander believes that a prime requisite in the essential needs of the Republic is an improved currency system.

Ecuador: Railroads, completion of the sanitation works for the port of Guayaquil.

Guatemala: Internal development and banking.

Honduras: Settlement of debt question, railroads.

Mexico: As a matter of fact, Mr. Shirley' paper on Mexico is not presented in the group—the editor calls it a symposium—of papers dealing with the countries in alphabetical order from Argentina to Venezuela. It follows the symposium and is much broader in its treatment. Mr. Shirley eliminates the present political conditions as being transitory, and to be followed by a long and permanent peace. Extracts from this paper are given elsewhere in this number of the BULLETIN.

Nicaragua: Transportation, industrial development.

Panama: Agricultural and grazing industries, particularly sugar, coconuts, and cattle.

Paraguay: Internal industrial development, improvement of waterways.

Peru: Settlement of debt question, followed by industrial development.

Salvador: Establishment of government bank, railroads, mining, water powers.

Uruguay: Banks, public utilities, industrial development.

Venezuela: Capital to create and develop natural wealth, new industries, broadening of the old industries. Mr. Yánes says that Venezuela is one of the few countries not in the foreign market for a loan, and that it has a gold reserve of 50,000,000 bolivars, or about \$10,000,000.

The following extract is from the paper of Mr. James J. Shirley, above referred to:

Mexico with its triangular shape, the apex at the south and two sides bounded respectively by the Gulf of Mexico and the Pacific Ocean, has an enormous coast line ideally situated with respect to the Atlantic, Gulf, and Pacific coasts and ports of the United States. While in normal times both coasts hitherto have had excellent service, not only with the United States, but maybe even better with Europe, it is probable that this means of transportation will be greatly increased.

The opening of the Panama Canal has doubled and trebled the number of ships plying along the Mexican coasts, especially the Pacific. Mexico unfortunately, through no fault of its own, possesses hardly any natural harbors of commercial value, and no deep rivers. Artificial ports have, however, been constructed at enormous

costs and which give ample protection and economical means of handling freight. In this respect the ports on the Gulf are not only more numerous but they are better equipped.

Regardless of the fact that there are invested in Mexico over two billions of dollars of foreign capital, of which the United States is second in the list of subscribers, the resources of Mexico, whether mineral, agricultural or commercial, have hardly been touched.

The oil fields of Mexico, probably the most extensive in the world, cover practically the entire Gulf region of the country. Millions of dollars have been profitably invested in this industry, and the largest individual wells in the world are here situated.

Figures of the Geological Survey prove the above assertion, and it is a remarkable fact, that though the world's output of petroleum during the last year was the greatest in the history of the industry by over 20,000,000 barrels, and despite the abnormal conditions in Mexico, this country was, nevertheless, third on the list of producers with close to 33,000,000 barrels, and this amount would have been greater if tank ships had been available. It is an interesting fact not generally known, that the British Navy has depended during this war to a great extent for its oil supplies on the oil fields of Mexico.

Enormous as this oil area is, its development has hardly commenced. As an indication of the inexhaustible nature of its wells, it can be stated that wells in the region from Tampico to Tuxpam—some of which have been flowing for years and are the largest in the world—are giving as great an output as when "brought in" with apparently no diminution in sight.

The California and Yukon gold rushes do not begin to compare in importance or magnitude with the wealth being produced and the development taking place, even in these turbulent times, in the Mexican oil fields. Only present disturbed conditions obscure it from more general attention and sensational notice.

For its area, Mexico is without a doubt the richest mineral country in the world, of which riches gold, silver, iron, copper, lead, zinc, and antimony head the long list. Its mines, worked in primitive ways, yielded millions since before the time of Cortez. Even now, mineral deposits without ownership are to be found throughout Mexico, which in the United States would be considered valuable, but which there, for lack of transportation facilities and because of other deposits of superior value surrounding them, at present remain unclaimed.

The immensity of Mexico's silver output can better be understood when it is realized that one-third of all the silver in the world at present in use has come from its mines. The gold production is almost as great in value. The coal and iron deposits, of which latter there are literally mountains in the northern part of Mexico, are exceeded probably only by the deposits in the United States and China. Mexico is truly the El Dorado of mineral wealth.

Mexico has every conceivable climate, from tropical to arctic, due to the varied altitude of its terrain, ranging from sea level to heights of 18,000 feet. Is it any wonder then that within its borders are found coffee, vanilla, precious woods of every kind, fruits of every description, hemp, and cotton? In fact, almost every product from those of torrid to those of frigid countries is found, from the hot lands to the pines and the trackless regions of eternal snows.

The west coast as far south as Colima is literally at the foot of the Sierras and, for this reason, very little of its area is swampy or unfit for use. Little is heard of this garden spot, but acre for acre, it is no exaggeration to say, that mineral, as well as for cattle raising and farm purposes, it would be difficult to find an area as rich in potential possibilities elsewhere or a territory where as little would have to be invested to obtain a given return, as in this almost perfect sunny region, opened up by the courage, enterprise, and foresight of Harriman. If one-half the capital and energy were to be expended on the west coast of Mexico as there has been in California alone, the world-famed development and beauties of the latter would pale in comparison.

It is of interest to know that many sections of railroad in Mexico have mahogany and ebony ties, and that miles of track are ballasted with silver ore—valuable now, but too costly to work by old processes. Houses are beamed and constructed with these precious woods, and mines are similarly timbered. It is truly a nation capable of self-support as no other country in the world.

Pages may be written about commercial possibilities. Mexico has always imported practically every manufactured product she uses, even the larger part of manufactured cotton goods, although she raises quantities of this staple and for some time has possessed very modern cotton factories.

In connection with cotton it is worthy of note that whereas prior to the conquest Mexico was producing nearly 120,000,000 pounds, since about 1882 when the industry was revived (after being completely destroyed by the Spaniards), the production has never been much in excess of 50,000,000 pounds—an amount entirely inadequate to the needs of the country.

Food products, including such important staples as corn and wheat, have likewise always been imported in enormous quantities.

It is a remarkable fact to contemplate and which goes to emphasize the extraordinary potential possibilities of the country, that the fiscal year ended in June disclosed the fact that the trade returns between the United States and Mexico were the greatest in the history of Mexico, surpassing any previous record even during boom times preceding the present troubles.

The United States imports from Mexico for the fiscal year were close to the colossal figure of \$100,000,000, while the exports of this country to Mexico were close to \$50,000,000. The figures for our imports from Mexico establish a record, but our exports were much below the average of normal times. To further accentuate these remarkable facts it is well to draw attention to the fact that the above figures on importations do not include those of the precious metals which, if taken into account, would further increase the remarkable record of the year.

One of the greatest problems for solution—equalled in importance only by the adjustment of claims and the rehabilitation of transportation lines—is going to be the redemption of the present innumerable issues of paper currency. An approximate estimate of the issue is probably about \$750,000,000. Mexico has reached a point of development, and its international obligations and commerce are such, that it must, for its prosperity and economical purposes, maintain a metallic basis. This metallic basis was created by law, and conditions would under no circumstances permit its abrogation. Its operation, therefore, will return with the adjustment of affairs.

The nullification of the present fiat currency should not present a very serious economic problem, for the reason that it has not (except for immediate urgent purposes) been accepted by legitimate business, and even when so accepted the currency has been in most cases almost immediately converted. Internal commerce has been almost completely paralyzed and external commerce has been at all times on a gold standard. The fiat currency has been used in most cases for military purposes, to pay off compulsory military services, military requirements and supplies, and may well be defined as "military currency."

It may be said that the arbitrary and summary cancellation of all existing paper issues (other than bank notes which existed prior to the governmental issues of recent years) while being a drastic measure would, in all likelihood, work no national and probably very little personal hardship.

The justification for any step which would create as quickly as possible a metallic currency is better understood if it is borne in mind that the great majority of investments of an industrial nature in Mexico, including the railroads, have been made by foreigners and that the investment of this capital has been on a gold basis. Such of these industries as are bonded are likewise bonded on a gold basis, and the absurdity of receiving revenues in paper currency not backed metallically, and having to meet

obligations and pay interest on a gold basis, is at once evident, and hence no semblance of stability can exist till this problem is successfully met. Just what form this elimination will take, and by what means it can be brought about, only future developments can decide.

Europe, despite its handicap of distance as compared with the United States, has consistently retained much of the commerce of Mexico which logically belongs to this country. Many reasons may be advanced to explain this. Briefly, however, the principal contributing cause has been the lack of American banking facilities as compared with those dominated by European influence. In fact no comparison can be made because there are no American banks with which to make a comparison. It can truly be said that the banking business in Mexico is entirely in the hands of Europeans. Apart from some purely local state institutions there are no banks in Mexico capitalized, owned, or conducted by Mexicans.

The great pillars of finance and credit in Mexico, such as the National Bank of Mexico and the Bank of London & Mexico, were capitalized and have always been controlled in Europe and are managed and directed by Europeans. The two leading banks of Canada—i. e., the Bank of Montreal and the Canadian Bank of Commerce—have each branches in Mexico. On the other hand, there is not a single American-controlled banking institution doing international business in the whole of Mexico.

Mexico, like other Latin-American countries whose initial progress has been due to European enterprise, has been accustomed to obtain its credit in Europe in customary European ways. While present world events may tend to modify these conditions somewhat, we, as a nation, through our institutions of credit, must meet our would-be commercial partners halfway and not, as heretofore, in a somewhat arbitrary manner. We must, in other words, study their problems and conditions. Mexico must likewise adjust itself to the new conditions as other nations and, indeed, the world at large is doing.

A "short-term obligation" in Latin America prior to the war was a thing unknown. This class of obligation, however, has been found the only practical one to use by the peculiar conditions prevailing in the United States, for the reason that the American investor has not hitherto had either the desire or the necessity to invest in foreign securities or look to foreign fields for investment, and it is not to be expected that he would take kindly to long-term obligations abroad.

But even in this country we are undergoing an industrial evolution of which most of us are hardly conscious and will not realize till we waken up to find it. While isolated cases may be shown, it can truly be stated that, as a nation, we have never, up to two years ago, acted as bankers for the world. Inside of this time, however, we have loaned abroad close to a billion dollars, not a dollar of which has been other than in the form of a short-term issue.

Mexico, like many other countries, is not a banker nation and has little money or capital to develop its resources, but it has the equivalent—and in almost unlimited amounts—i. e., realizable assets, the foundation of sound credit.

Great enterprises are already planned to be carried out as soon as a readjustment takes place. These include the rebuilding and building of railroads, construction of ports and harbors, erection of great irrigation systems, and great commercial enterprises, including the construction of colossal hydroelectric systems, the opening up of great bodies of ore, the erection of large manufacturing enterprises of all kinds, etc.

The keynote of our successful commercial enterprise, not only in Mexico, but throughout Latin America, will be our willingness and ability to absorb the public securities of these countries when they are soundly created and to construct and develop the above-mentioned enterprises. Their education by Europeans has been along these lines, and we must endeavor as far as possible to follow until in the process of time we can undertake and carry on a method of our own.

In the larger undertaking involving great investments of capital it is not compatible with the best results to encourage too much competition. Here, again, we can profit-

ably learn from our European cousins. Restraint of trade should not be tolerated, but neither should cut-throat competition prevail. Circumstances alter cases, and as the foreign fields present different problems, so we should devise a different method of solution.

Such undertakings as the Trans-Andean Railroad, the Trans-Isthmian Railroad at Tehuantepec in Mexico, the sanitation and harbor improvements at Vera Cruz, and the improvements being undertaken in Valparaiso, Chile, at an approximate expenditure of \$15,000,000, have all been undertaken and carried out with constructive cooperation rather than with destructive competition, thereby assuring efficiency and permanency in pioneer fields.

It may, therefore, be stated in conclusion that, eliminating present political conditions in Mexico as being transitory and to be followed by a long and permanent peace, Mexico must no longer be looked upon as a country of pioneer conditions. The network of railroads covering the country from the United States border to Guatemala and the Gulf to the Pacific as well as its adequate artificial harbors, highly developed hydroelectric systems, modern municipal improvements, its splendidly and modernly equipped and operated mines and smelters for gold, silver, lead, copper, zinc, iron, etc., are all indications that the path is blazed and even paved. There is needed only the establishment of large and sound American international banks, similar to those splendid and solid British institutions found throughout South America, which are the solid foundations of British domination in commercial lines throughout the world.

The policy of such institutions, while conservative, should be judiciously liberal to meet the requirements of the situation, and should not merely furnish a medium of exchange or act as commercial "pawnshop." We must in the great development of those countries, most of which must be done primarily through cooperation with their Government, learn to absorb their securities under certain guarantees as they are issued and to create industry and improvements, thereby augmenting the security as well as the revenue.

Hitherto the tendency in the United States has been to look upon the would-be investor in Latin America as an adventurer rather than as a practical business man. He is, however, far from deserving the stigma, any more than such pioneers as Harriman, Hill, and others. The strength of the British Empire, as demonstrated in this present European war, is the direct result of its investments and commerce abroad. Great Britain has invested in Brazil about \$750,000,000, in Argentina about \$1,500,000,000, in Chile about \$325,000,000, and in other countries in proportion. The mobilization of her resources during this war has clearly demonstrated the power of foreign investments when effected along sound lines.

Mexico, more than any other country, is literally beckoning us to aid her and incidentally to profit by it. Are we going to take advantage of the opportunity or are we going to let some one else usurp our rights?

South American Timber Resources and Their Relation to the World's Timber Resources, is the title of an address delivered by Raphael Zon, of the United States Forest Service, before the Second Pan American Scientific Congress, held in Washington, D. C. The address is published in the October number of *The Geographical Review* (New York), and while lack of space prevents a fuller presentation of the many valuable features, the following excerpts will suffice to show the comprehensive manner in which the subject has been treated:

The commercial value of these vast forests is still very little known. Botanically, the South American forests, particularly those near the Equator and along the river

bottoms, consist of a large number of species. "On a single acre it is hardly possible to find two or three trees of the same kind." This botanical wealth of species can not be used as a measure, however, of commercial value. The reasons for the widespread use of wood are its lightness, combined with strength, and the ease with which it can be worked. It is these qualities that make wood almost indispensable to our civilization. What is demanded, especially in the international markets, is a light, strong, easily workable timber which can be supplied in large quantities and delivered at a low price. Such timber has so far been supplied by the northern coniferous and temperate hardwood forests of Europe and North America. The richest forests in the world, commercially, those of northern Russia and Sweden, botanically are very poor. They consist of only two species, the Scotch pine and the spruce.

If the South American tropical forests contain only a few commercially useful tree varieties which are scattered among a large number of other species of low or no present commercial value at all, the high cost of logging them may make the exploitation of such forests unprofitable. * * * The few trees known at present as commercially valuable are invariably found scattered among a great many unutilizable ones. In order to cut and remove the valuable species it is necessary, therefore, to cut and leave a good deal of useless material. A more intimate study within recent years of the physical properties of tropical woods by the United States foresters in the Philippines has shown, however, that the forests of the Philippine Islands and the Malay Archipelago contain a vast group of trees (*Dipterocarpa*) which, although they are hardwoods, possess many of the qualities of the common woods used in international trade, namely, lightness, strength, and softness. The presence of a large number of utilizable woods in other tropical forests, in addition to the rare woods, such as dye woods, rosewood, mahogany, and others, would place them on an entirely new commercial basis, since they would contribute to the future supply of common hardwood timber for the world.

If further studies show that the forests of South America contain, in addition to the rare dye woods, quebracho, greenheart, mahogany, etc., a large number of utilizable hardwoods similar to cedro, which is already being exported from there, the economic importance of the South American forests will be great. Our present knowledge of the technical properties of the woods of the South American forests is very inadequate. From what we do know at present, however, there are three species which, because of their technical properties, may furnish woods suitable for wide use. These are the Parana pine (*Araucaria brasiliensis*) and the Chilean pine (*Araucaria imbricata*), two coniferous species, and the Spanish cedar, or cedro (*Cedrela*, several species), which is a soft hardwood. Most of the other hardwoods known at present are exceedingly hard and heavy and, therefore, difficult to saw. * * *

The following is an attempt to estimate very roughly the areas occupied by the different classes of South American woods and on the basis of these estimates to outline the possible economic importance of South American forest wealth. The total forest area of 1,924,000,000 acres may be divided into distinct forest regions according to the prevailing commercial species—(I) the coniferous forest, comprising (1) stands of nearly pure Parana pine, and (2) stands of Chilean pine mixed with some larch, cedar, and South American beech, which may be designated as the Antarctic beech region; (II) the vast hardwood forest which comprises (3) the tropical hardwood forest in which Spanish cedar is invariably present, and (4) the forest of subtropical hardwoods; (5) stands in which quebracho forms the important species, and (6) stands in which greenheart predominates.

1. The Parana pine forest region occupies an area of approximately 309,000 square miles, or 200,000,000 acres (802,000 square kilometers), the greatest part in the southeastern portion of Brazil in the States of Rio Grande do Sul, Santa Catharina, Parana, Sao Paulo, southern Minas Geraes, and Matto Grosso. The range of this pine is between the parallels of 18° and 32° S. It derives its name from the State of Parana in



BEECH TREES ON TIERRA DEL FUEGO.

Brazil, where it is most plentiful and is commercially the most important tree. In Parana one company alone owns a solid forest, much of which is still in the primitive state, aggregating 3,000,000,000 feet and averaging over 4,000 feet to the acre. Some stands of Parana pine contain as much as 15,000 or 20,000 board feet to the acre.

2. The Antarctic beech region is the only other region in which conifers are found, such as the Chilean pine, larch, and cedar. The Chilean pine is botanically very close to the Parana pine. This region lies chiefly on the slopes of the Andes and occupies in all an area of approximately 96,000 square miles (61,000,000 acres), or 248,000 square kilometers.

3. The tropical and subtropical hardwoods occupy by far the largest areas. The tropical hardwoods are found over an area of some one and a half million square miles (more than one billion acres), and the subtropical hardwoods over an area of 259,000 square miles (165,000,000 acres). The most valuable tree of the tropical hardwood forest is the *cedro*. *Cedro* (*Cedrela odorata* and other species) constitutes one of Brazil's most important export hardwoods and is commonly known in the United States as Spanish cedar. This species does not form pure forests over large areas but is found scattered among the tropical hardwoods throughout Brazil from the Amazon to the Parana River. The largest and highest-grade logs are cut from the forests in the State of Sao Paulo and in the territory lying south and immediately west of it. In this portion of Brazil the wood is in high favor commercially and is consumed in large quantities. Its softness, the ease with which it can be worked, its ability to hold paint and take a polish, as well as its high grade, commend it for many special uses and make it first in economic importance of all the Brazilian hardwoods. It enters aggressively into competition with the imported pines and in certain markets is preferred for a number of uses. In Brazil it is being cut annually at the rate of about 47,000,000 board feet. Its range coincides practically with that of the tropical hardwoods. Of the vast variety of other hardwoods which are found in mixture with cedar, *peroba* and *acapu* (*Voucapoua americana*) are the two species which may be considered among the chief woods for export from the Amazon Valley to the European markets. At any rate, these species, more than any other hardwoods, meet locally the need for hardwoods and, therefore, make unnecessary the importation of American and European hardwood lumber.

4. The hardwoods in which quebracho occurs in commercially important species are found chiefly in northern Argentina, in the provinces of Tucuman, Santiago del Estero, and Santa Fe, the territories of Formosa and the Chaco, and in the Chaco of Paraguay. Botanically, however, quebracho is distributed over a much larger area. The total possible yield from the forest areas where quebracho occurs in commercial quantities is estimated at 168,000,000 tons, while the present yearly consumption of the wood for all purposes is a little less than 1,000,000 tons. Since the average yield per acre is approximately 2 tons of the wood, the total forest area in which quebracho occurs in commercial quantities is about 84,000,000 acres. The small yield per acre makes it necessary to cut over about 500,000 acres annually in order to secure the 1,000,000 tons of wood which are in demand. Quebracho wood is one of the principal commercial products of South America, its main value being for tannin extract and crossties.

5. Greenheart (*Nectanda rodieri*), with which is associated mora (*Dimorphandra mora*), is the most important tree of British Guiana, the only place where it is being cut extensively. There it is found most abundantly along the Essequibo, Demerara, and Berbice Rivers. Greenheart grows along the seacoast and watercourses, seldom extending more than 50 miles inland and never more than 100 miles. It reaches its best development in a strip of country between 2 and 3 miles wide immediately behind the alluvial deposit which fringes the seacoast. The present export of timber from British Guiana is in the neighborhood of 200,000 cubic feet, which, on the whole, is smaller than it was in the past, when in certain years as much as 400,000



SPANISH CEDAR TREE IN SOUTH AMERICA.

cubic feet were exported. Greenheart is chiefly used in ship and dock building because of its immunity against the ravages of the teredo. It is found over a range of over 240,000 square miles, or about 154,000,000 acres (625,000 square kilometers). * * *

Mr. Zon goes into details as to the present development of the timber industry in the several countries, and concludes with the following timely comments and suggestions:

If our estimates of the timber resources of South America are anywhere correct, several conclusions suggest themselves:

First, in spite of apparently a vast forest area, the extent of commercially really valuable timber is limited, and therefore it would be an obvious error to assume that the timber resources of South America are inexhaustible. The people of the United States have made a similar error in the past. Twenty years ago the white pine in Michigan was regarded as inexhaustible; to-day 6,000,000 acres which 30 years ago carried the best white pine in the world have been abandoned by their owners for taxes and lie almost wholly waste—a man-made desert, the combined result of a reckless use of the ax and a still more reckless disregard of fire. As it is, attention has already been repeatedly called to the danger of the extinction of the quebracho, since little or no check has been placed on the cutting of this wood. If the present cutting is permitted to continue, according to a very high Argentine authority, few existing quebracho trees will be left standing. There is constant outcry for the passing of immediate forestry laws, but as yet this very pressing matter has not obtained its share of consideration from Congress. Not only the quebracho but many other valuable species of trees with which the forests abound are in danger of extinction in the not very distant future as the result of inadequate forestry laws.

Second, the coniferous softwoods of South America will supply only the growing home population, and, therefore, their preservation becomes a matter of national importance, since with the gradual exhaustion of the timber supply of the northern and temperate regions the amount of softwood exported will gradually decrease and the price increase.

Third, South America has a vast amount of hardwoods which is more than sufficient to supply her own needs for all time; but, as far as we know at present, it has comparatively few hardwoods beside Spanish cedar and several extract and dyewoods which may figure extensively in export trade. This vast hardwood forest is still unknown and furnishes a fertile field for exploration which may lead to the discovery of many species whose wood properties may change entirely the commercial aspect of the South American forests. The first task, therefore, of South American countries which are interested in the development of their forests is a thorough reconnaissance of their timber resources and a study of the technical properties of the different woods as a basis for an intelligent estimate of what those forests contain and what they have to offer to the lumber market of the world. If further study fails to discover any more valuable species than those already known it will still serve as a basis for a definite forest policy. It will indicate methods of logging and partial manufacture which may make possible a large export trade in these hardwoods. It may show the advisability of confining future management of those forests to the growth of only the most valuable species and the gradual elimination of the vast number of unutilizable trees or forest weeds. Such a policy, together with the rapid growth of the tropical trees, may tend to increase the commercial value of the forests. It may also dictate a definite land policy with regard to the clearing of certain kinds of forests for agricultural purposes and the advisability of retaining others for timber growth. Without such a reconnaissance and determination of the possible uses to which the tropical hardwoods are suited, a systematic and intelligent development of the timber resources can not be undertaken nor capital for their exploitation readily attracted. It is therefore in



A QUEBRACHO TREE IN ARGENTINA.



THE BARK OF THE QUEBRACHO TREE.

the interest of the countries whose economic progress depends on the development of their natural resources that such a reconnaissance should be undertaken and carried through as soon as possible.

South American Forests, by H. M. Curran, in the "Proceedings of the Society of American Foresters" (Vol. XI, No. 4, October, 1916), is another treatment of the subject by an expert forester along a somewhat different line, and the following partial reproduction will be of interest to all who realize the necessity for conserving the world's supply of valuable woods:

Of recent years medical science has robbed the tropical wilderness of its most deadly weapon, and for the first time in history man has it in his power to destroy or bend the jungle to his will. With this new-gained advantage man is busy to-day with fire, ax, sawmill, and plow wasting the wealth stored for centuries in the most wonderful and most beautiful forests in the world. The value of temperate forests is as nothing compared with the producing power of equal areas in the Tropics. These areas produce rubber, rattan, dye, tannin, vegetable ivory, medicine, fibers, oil, resin, and bamboo, in addition to the wood products from trunk and branch. Higher prices can be obtained for tropical than for temperate woods, and, as a rule, growth is much more rapid in the South. It is possible for the tropical forester to plant and harvest not one but many forest crops in a lifetime, with a higher return per acre for each than the single crop of the forester in Europe or the United States.

Firewood can be grown in from 3 to 5 years; pulpwood, posts, and piles in 10 to 15. Timber of 18 to 30 inches in diameter can be produced in 15 to 25 years, and the minor products of his forest may yield more than the timber itself. For every dollar of wealth produced by temperate forests tropical forests should yield not less than 10. * * *

As a rule, all agriculture practiced in the Tropics has as its first step the clearing and burning of an area of timber. Few people realize that each bag of coffee, pound of chocolate, or bunch of bananas represents many thousands of feet of timber reduced to ashes, and that the "crop burned" is often of more value than the one harvested.

We passed through a similar stage of development in the United States. Cotton, tobacco, wheat, and corn were first raised on lands from which the planters removed by burning millions of feet of choice white oak, hickory, ash, walnut, and pine. It is hard to excuse this waste, even in pioneer days, in lands without transportation, and can only be condemned when allowed by a Nation to-day. The world needs vast quantities of wood, and no spot of the earth with abundant forest wealth is too remote to prevent a profitable harvesting of the timber crops. Quantity of the product, coupled with size and quality, are the only factors determining or limiting the degree of utilization.

With the exception of two small regions South American forests are of broad-leaved hardwoods. From the point of view of forester or lumberman these forests differ little from the hardwoods of our mountains and the Mississippi bottom lands. Here and there exceptional stands are found, but on the whole these forests run from 10,000 to 20,000 feet board measure to the acre. The common belief that tropical forests contain only very hard woods must also be dropped, for recent investigations show these forests to be composed of soft or medium hard woods, which are as suitable for general construction as the pines and various conifers and hardwoods of our own forests.

South American forests may be roughly divided into four more or less distinct types, the species composing each varying from region to region, but the general effect of each type from Colombia to Argentina is much the same. The four principal types have, for convenience of description, been given the following names: Dry forests, Temperate forests, Swamp forests, Tropical rain forests. Better or more scientific names can be found and will come from the careful study now planned for these

regions. Many minor yet distinct types must be passed over in this general survey. The conifers of northern Patagonia, belonging to the Temperate forests, and the Brazilian conifers of the transition zone, between Temperate and Rain forests, are among the most interesting of the lesser types.

In the temperate or subtropical regions, both at high and low levels, there are immense areas where the rainfall is deficient or so unevenly distributed throughout the year as to cause long periods of drouth. These areas are usually covered with some form of tree growth which at its best is a dense forest of comparatively few species. The trees are short boled, round headed, often armed with spines or thorns or short spurlike branches and harsh or bristle-pointed leaves. The trees usually do not exceed 50 feet in height, and in many regions the average is little over 25 feet. The commercial stem varies from 10 to 20 feet, with diameters of 12 to 24 inches common. These forests grade into chaparral on one side and on the other into Tropical rain forests. Perhaps the best-known representatives of this type are the Quebracho-Algaroba forests of northern Argentina. They occupy the great semiarid plain lying between the foothills of the Andes and the Parana and Paraguay Rivers and known as the Great Chaco. Other representatives of this type are the Catinga forests of Brazil and the coast forests of Colombia and Venezuela between Cartagena and the Island of Trinidad.

This second type, the Temperate, is found along the slopes of the Andes, where elevation and moisture, combined with suitable soils, make the growth of a temperate forest possible. This type is best developed in Patagonia and comes practically to sea-level in Tierra del Fuego. Here in the south the trees are rather stunted and deformed by the winds, but in the mountains to the north and along the shore of the Patagonian lakes they reach a splendid development and heavy stands are reported. These forests are of Antarctic beech and a few conifers. Three species of the beech would probably furnish 90 per cent of the cut. Average stands are probably between 10,000 and 20,000 feet per acre, not allowing for defects. The forests are overmature and so defective as to be of little commercial value. The trees reach heights of 100 to 125 feet and 2 to 5 feet in diameter. The extension of this type along the Andes from Chili to Colombia can only be estimated. The great populations that have for thousands of years occupied this region drew on these forests for fuel and construction timber and only second growth or scattered patches remain. These highland people have even worked down to the edges of the rain forests of the great Amazonian plain.

The Swamp forests, the third of the great divisions, may be divided into two subtypes, the tropical forests occupying the salt-water swamps at the mouths of the great rivers forming one section, and the forests of the fresh-water swamp and bottom lands the other. The tidal swamp forests are typical mangrove areas like those found in other parts of the world and are rather restricted in area and practically destroyed. The fresh-water swamp forests occupy great areas and promise to be of commercial importance in the near future. The best-known representatives of this type are the lowland forests that fringe the Amazon, the Orinoco, Parana, and Magdalena Rivers. These forests are similar in character, though differing in species from north to south. Many closely related species are found in all these forests and only the botanist would note a difference.

The overflowed areas along the river are a series of sandy or gravelly bars, small islands, sandy banks, wet, open meadows or savannas, shallow ponds and lakes, and a network of minor waterways. They vary from a few miles in width to perhaps a hundred or more. At least once a year they are covered with water, with the possible exception of the very highest points. The rise of the water may be rapid or slow and remain a few hours or even months in the deepest parts of the lakes and ponds. Usually the rise is gradual, the water flows through the many channels, fills ponds and lakes, and spreads thence to the forest, as in our own bottom lands. The water then gradually subsides, and only the deepest ponds and lakes and channels retain water during the drier period.

The forests of this area are very irregular in age, often very open, and growth is extremely rapid. Changes are so rapid in this region, each freshet making new land and destroying old, that only fast-growing species can obtain a footing over much of the area. The species common in this type are in the main soft wooded, as soft or softer than our cottonwood, basswood, and yellow poplar, and many with but little color. They reach heights of over 100 feet in the best soils; probably 60 to 70 feet is an average, with diameters of 2 to 3 feet common. Certain of these species reach this height in 10 to 15 years, and commercial diameters in much the same time. The dominant stand for any given region is usually of a very few species. In many cases four or five varieties of trees will furnish 75 per cent or more of the commercial timber and the yield be 8,000 to 10,000 feet per acre.

The tropical rain forest is the most important and the least known of all the types of South American forests and, though it may seem paradoxical, yet its timbers are among the best known tropical woods. Mahogany, rosewood, Spanish cedar, Brazil wood are the products of these forests; but as only the edges of the great wooded areas have been reached by the lumberman and explorers, and even the Indians keep near the waterways, they may be said to be practically unknown.

This forest type in South America is probably the largest and most valuable body of timber in the world to-day. South America's future and many of the great problems of forest administration in Europe and North America depend on how this forest is treated. If it is destroyed, as the forests of Argentina, Paraguay, and southern Brazil are being destroyed, it will mean economic ruin, probably also absolute physical ruin to land, climate, property, and life on a great part of the southern continent. If, on the other hand, it is protected and properly utilized, South America becomes the center of the world's prosperity in the years to come. The saving of this forest means also that Europe and North America will have time to repair their damaged forests, to perfect their organization, so as to meet demands without destroying the capital. Only by obtaining great supplies from these virgin forests of South America can this crucial time in the great struggle for forest conservation be safely passed. If, therefore, these forests are so valuable, can they supply at once the kind of timber demanded or must the world learn to use new forms to supply its needs?

The tropical rain forests are composed of timber practically like those now in use and in most cases much better adapted for the uses to which they will be put than those now supplied by the American mill man. The time will come when we will look back with amusement to the dark ages when we used yellow pine for boxes and railroad ties and redwood for shingles and vineyard stakes.

The woods of these tropical forests are in the main soft or of medium hardness, and are suitable to replace pine for construction, oak for finish and furniture, hickory for wheels and handles, and ash for agricultural implements. From the infinite variety of these timbers we can find one for each industry more completely suited to its needs than the ones used to-day. From the point of view of the logger, these forests are ideal. Heavy stands are found over great areas on land as level as the southern pineries. Ten to twenty thousand feet can be cut to the acre. Commercial diameters run between 2 and 3 feet, and the clear lengths 50 feet or more. The total height of an average tree is well over 100 feet.

Navigable rivers and streams reach every part of the forest, and short hauls to floatable water will be the rule. Much of the timber will float; but it is quite probable that it will be found most profitable to construct complete wood-working plants close to the forest, dispose of low-grade products near at hand, and ship only more or less finished products to the world's markets.

South America has this most wonderful opportunity of becoming the center of the world's lumber industry. If the various governments will organize forest services, train their young men as foresters, the wealth of these regions will flow into their treasuries, and not be wasted, as they are to-day.

Sculptors of the Americas is the title of a series of articles appearing in the Spanish edition of the *BULLETIN* which give brief biographical sketches of some of the leading sculptors in the various countries of Pan America, incidentally embellished with reproductions of photographs of typical examples of their work. The first of the series deals with Charles Henry Niehaus, of New York, the English version of the article being as follows:

A competition was recently held in the United States for the erection of a suitable memorial to Francis Scott Key, the writer of the Star Spangled Banner, the national hymn of that country. The thrilling circumstances surrounding the composing of this anthem is a classic story in United States history. Only two years ago, in 1914, the one hundredth anniversaries of the creation of the flag and the writing of this national melody were celebrated with elaborate ceremonies in the city of Baltimore, Maryland, where the stirring events that inspired the hymn took place. The story, briefly recounted, is as follows: In 1814, during the British attack on Baltimore, Key sailed out to one of the British ships to secure the release of a friend who was held prisoner. This was shortly before they commenced their bombardment of the city. Instead of accomplishing his mission and returning at once, he was detained and obliged to remain until after the attack. From his position he could see the flag flying on Fort McHenry, although it was obscured by smoke and darkness. Held prisoner, he spent an anxious period of 25 hours while shot and shell were hurled at the fort. With the breaking of dawn and the clearing away of clouds and smoke, since the firing ceased, Key looked out toward the fort and rejoiced to find the Stars and Stripes floating in the breezes. He drew forth from his pocket a piece of paper and, under the inspiration of the moment, penned the words which have become a permanent treasure.

To commemorate his memory, the Congress of the United States has appropriated \$70,000 for the erection of a memorial, and \$5,000 for prizes and contingent expenses. Thirty-four of America's leading sculptors submitted models, and the commission of experts selected four to whom were awarded the four prizes. Three other models received honorable mention.

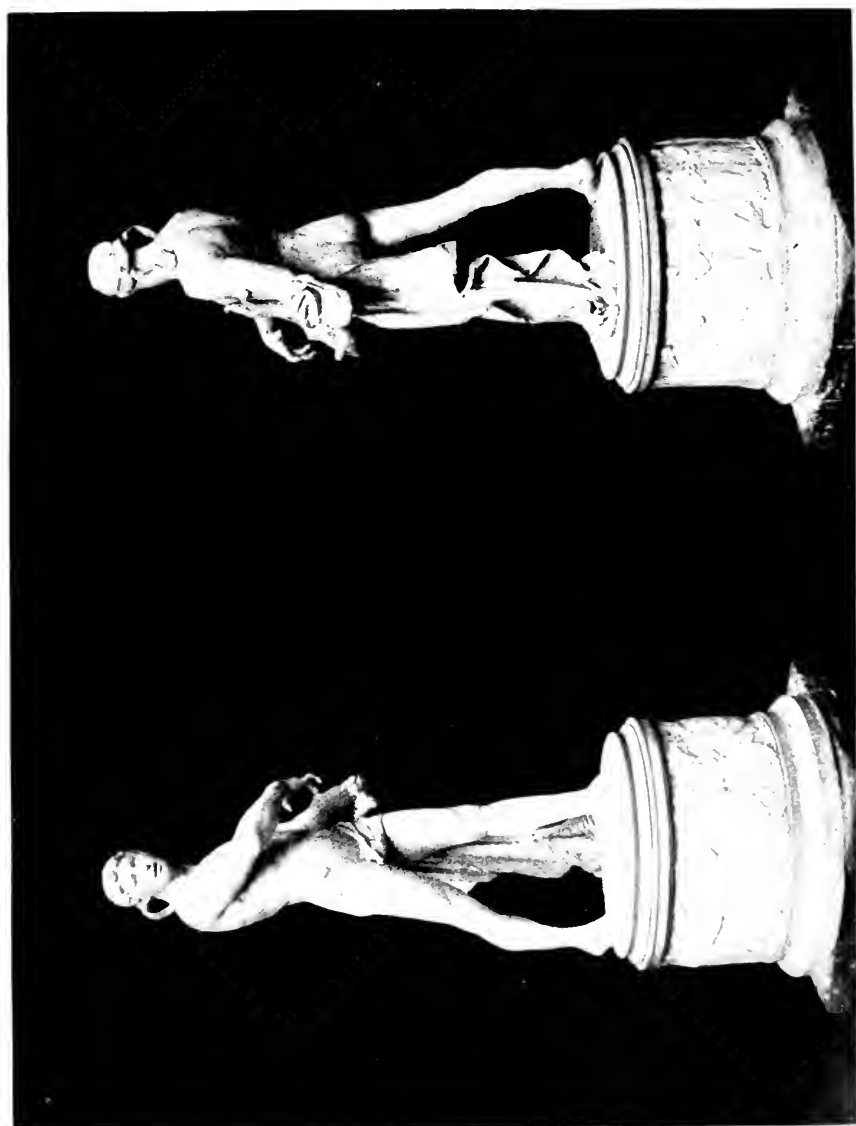
The winner of the first prize was Charles Henry Niehaus, of New York, and to him was awarded the contract for the erection of the memorial at Park Fort McHenry, Baltimore. The sculptor's conception of this monument reveals the same genius that has characterized his numerous other efforts which grace the artistic decorations of other buildings, parks, and places. A colossal ideal figure, representing Francis Scott Key in the act of delivering the national air, is the dominating theme of the memorial. His portrait in relief adorns the front pedestal and the two pylons, flanking the figure, commemorate the soldiers and sailors of that period, while a sculptured frieze illustrating his achievements girdles the pedestal.

Mr. Niehaus ranks with the foremost sculptors of America. Born in Cincinnati, Ohio, he studied at the school of design in that city, and was awarded first prize in drawing and modeling. This afforded him an opportunity to go to Munich to continue his studies at the Royal Academy. He journeyed through Italy, France, and England, studying the sculpture of the Old World, the treasures of the Renaissance period, and the remains of the old Greek and Roman art. Returning to his native city at about the time of the death of President Garfield, he was entrusted with the execution of two statues of the deceased statesman. One was placed in that city and the other in the rotunda of the Capitol at Washington. After some further work in the United States, the sculptor betook himself to Italy, and at Rome established a studio where he labored for love of the work. His models won praise, and made him a fellow in the International Artistic Association of Rome.



THE APOTHEOSIS OF ST. LOUIS (LOUIS IX).

Of the 1,000 pieces of sculpture exhibited at the St. Louis Exposition, this is the only one that has been retained for permanent exhibition in front of the museum at St. Louis.



CENTRAL FIGURE OF MEMORIAL TO FRANCIS SCOTT KEY, AUTHOR OF THE "STAR SPANGLED BANNER," TO BE ERECTED AT FORT McHENRY, BALTIMORE.

The model submitted by Charles N. Nichols was accepted by the commission, and the sculptor is now engaged in the work of construction. The Congress of the United States appropriated \$70,000 for this memorial, and it is estimated that it will take three years to complete the work.



STATUE OCCUPYING CENTRAL POSITION IN THE HAHNEMANN MONUMENT,
WASHINGTON, D. C.

Erected by the homeopathsists to the founder of that school of medicine. The monument has an imposing super-structure and embodies a number of decorative elements. On either side of the central arch are emblems in bas-relief, a bowl and serpent, the symbols of wisdom, and a lamp and book, typical of knowledge. In two panels in either side of the niche are placed commemorative tablets representing in bas-relief, in bronze, the four epoch-making periods of Hahnemann's life, viz., the nightly vigils of the student, the investigation of the chemist, the teacher addressing his class in the university, and the success of his treatment of typhus patients in the hospital.

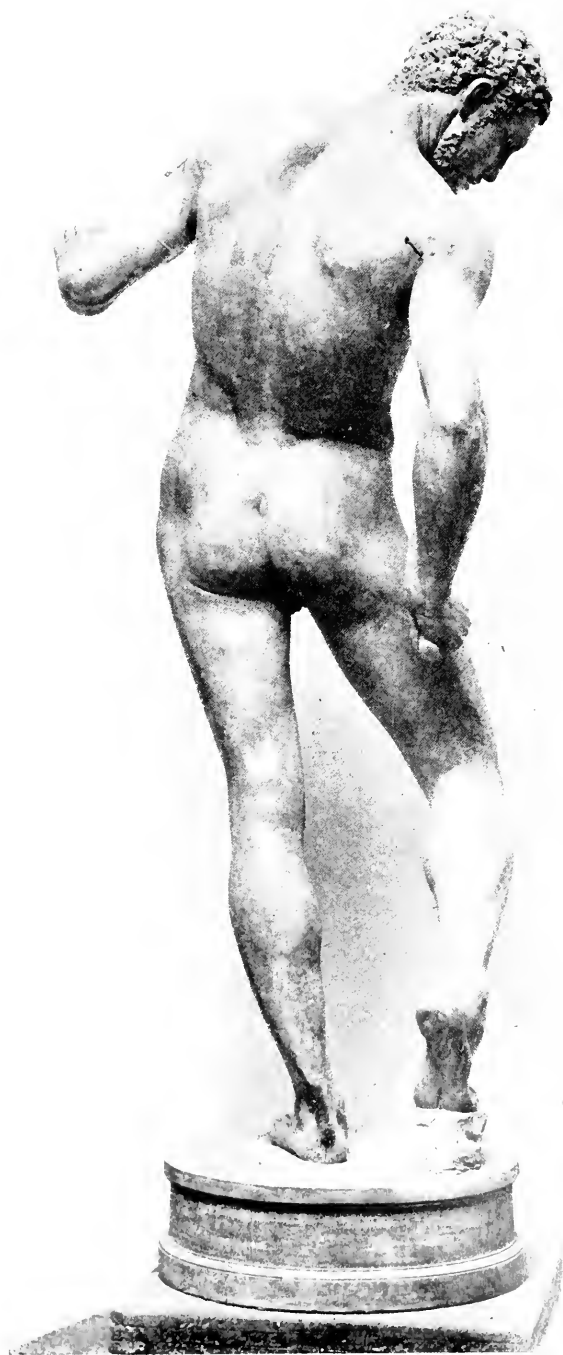


"STORY OF LIGHT."



"STORY OF GOLD."

Two feature groups in the sculptural work representing the "Story of Gold," typifying solid mineralogy, one figure is digging for ore, and another is working in the stream. There is also shown a primitive emerald with a man melting the rock in the fire. The "Story of Light," suggestive of fluid mineralogy, is more ideal in its conception. An allegorical female figure, the Geni of Inspiration, holds aloft her torch of enlightenment. One man is falling for gas, another is beside a tripod, and one is blowing air.



"THE SCRAPER."

A Greek athlete using a strigil. While the sculptor was in Rome he modeled a number of subjects in the antique form. Though most of them have been destroyed, three remain, and The Scraper is one of those that have been preserved. This statue has been awarded a number of honors and medals at different exhibitions.



"THE DRILLER," COLOSSAL BRONZE FIGURE IN THE DRAKE MONUMENT, TITUS VILLE, PENNSYLVANIA.

"The Driller" is a forceful example of the sculptor's work and shows a magnificently muscled figure with uplifted hammer in the act of driving the drill into the rock. It is full of life and vigor, and strikingly typifies a pioneer of industry, the idea it was intended to convey in the erection of this memorial.



"SILENUS."

One of the sculptor's conceptions on exhibition at the Museum in Buffalo, New York.

He again returned to the United States, and establishing himself in New York, has remained there ever since 1885. From that time on he has done many notable pieces of sculpture. In the Congressional Library at Washington he has two statues in that group of 16 which represent the foremost characters almost from the beginning of history. They are the statues of Moses, typifying the "Law" and Gibbons, representing "History." In the library there are also three door spandrels carved in wood from designs conceived by him.

In the rotunda of the Capitol at Washington stand two statues from each State in honor of two distinguished sons. The State of Ohio contributed as its statues Garfield and Allen. Both of these were executed by Niehaus.

Another monument in Washington noteworthy for its beauty and expressiveness is that to Hahnemann, the founder of the homeopathic school of medicine. This was erected by the homeopaths of America, and during the recent convention of this organization in the past month, the delegates placed floral tributes at the base of the statue. The model was designed by Sculptor Niehaus and was selected out of a group of 24 models representing sculptural concepts of America and Europe. The statue of Hahnemann is of bronze and occupies the central point on the stone platform which is approached from the front by four steps and at the back of which rises the superstructure which is elliptical in form. The treatment is Greek in spirit and the details in harmony with the conception.

Several statues of Lincoln are included in the sculptor's efforts. One of them, shown in the illustration, was executed for placement in Muskegon, Mich., a gift from one of its citizens. Another, similar in treatment but with enough differentiation to make it distinct has been made for the Buffalo Historical Society.

The Drake Monument, at Titusville, Pa., in honor of Col. Edwin L. Drake, who sunk the first oil-well in Pennsylvania in 1859, is another example of Dr. Niehaus's skill and artistic compositions. The nucleus of the design is a classic fane of simple Grecian type, approached by a semicircular sweep of low steps and adorned with four Ionic columns. It incloses a vaulted and arched niche in which is mounted a bronze heroic figure, the "Driller" symbolizing the energy of labor. The figure at the ends of the wings, extending from each side of the fane, are symbolic representations of "Memory" and "Grief." The wings are divided into six panels each one bearing an inscription telling part of the story of Mr. Drake's life and achievements. No representation of Drake is to be found on the monument, the idea being to typify his works by suggestive artistic figures rather than to attempt portraiture.

At the Buffalo exposition the sculptor contributed two of the largest groups for the Fountain of Nature the subject of his work representing Mineral Wealth. One of the groups embodied the Story of Gold, the other the Story of Light as interpreting, respectively, solid and fluid mineralogy. In the Story of Gold the Genius of Opportunity is seen calling through her fingers to waken the world to its waiting possibilities and in the Story of Light the Genius of Inspiration is holding aloft a torch to show the source of enlightenment. About these pivotal female figures the sculptor has further elaborated his theme by male figures engaged in the manual unfolding of the story of gold and the story of light, each one's occupations allowing the artist a wide range of muscular posing and vigorous treatment.

Other works of Mr. Niehaus include some historical conceptions of George Washington, figures of ancient Greeks, and designs for doors, tympanums, and pediments for Trinity Church, New York, the New York Court of Appeals, the statehouse at Hartford, Conn., and other points.



PAN AMERICAN NOTES

RECEPTION OF DR. BELISARIO PORRAS AS ENVOY EXTRAORDINARY AND MINISTER PLENIPOTENTIARY OF THE REPUBLIC OF PANAMA.

On November 20, 1916, President Wilson formally received the new envoy extraordinary and minister plenipotentiary of Panama, Dr. Belisario Porras. This distinguished gentleman comes to the United States for a second time as his country's diplomatic representative, his first incumbency of this important post having been terminated by his election to the highest office within the gift of his people, that of President of the Republic of Panama. He returns to Washington after having served his full term as President with marked ability and distinction. His successor in the office of President of Panama, mindful of the eminent services of Dr. Porras while on his previous mission to the United States, selected him to again fill this important position. The minister, therefore, returns, an ex-President of his country, to the scenes of his former diplomatic labors, where many of his friends in the official, diplomatic, and social life of the capital of the United States join in a hearty welcome. In presenting his credentials to President Wilson the minister modestly alluded to his former services in the following terms:

MR. PRESIDENT: I have the honor of placing in your hands the original credentials, which the President of the Republic of Panama addressed to you, investing me with the character of envoy extraordinary and minister plenipotentiary of my country before the Government of the United States, whose high destinies you have been directing for more than three years with exquisite tact and with the highest spirit of justice.

Aside from the pleasing courtesy which this appointment means to me, I have reasons for believing that the President of Panama, desirous of making more cordial each day the relations between our countries, had in mind in naming me, the admiration which I have for your country, my experience and relations here in a period during which I was honored with the same representation, and, finally, the office which I just left of President of the Republic of Panama, in which I was able to familiarize myself with the causes, now very much lessened, of conflicts between the rights of both nations, and in which on more than one occasion I brought to bear my spirit of concord to make more fraternal and fruitful the common life of the two nations, at the point of this continent in which their interests are more in contact, exactly where the waves of the two great oceans meet and where North and South America clasp hands.

My hopes of success in my mission are not founded so much, nevertheless, on these personal qualifications, as on those which distinguish you, as you are the prototype of the cultured gentleman, scholar and statesman, with such an attachment to the principles of equity and justice that nothing can shake them.

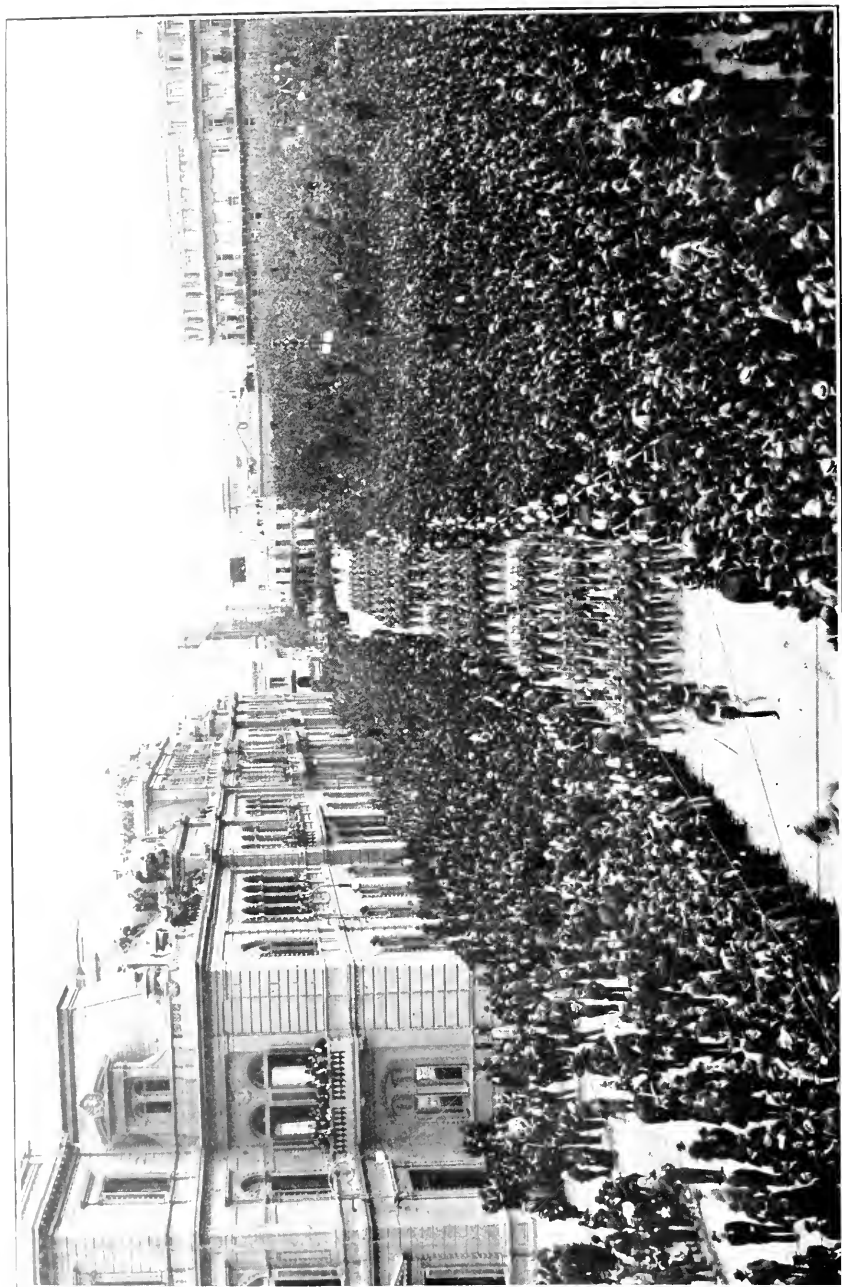
They are founded, finally, on the evident mutual advantages of the two countries, a fact of which a country of such practical judgment as yours has already taken account. In the heart of Panama the United States have, in fact, their greatest interest. Perhaps it is there where there is the best guaranty of her prosperity and great power. Panama, owing, on the other hand, to the United States the protection of its independence and deriving benefits from the colossal work which the United States have completed in its territory, the Panaman interests have come



Courtesy of Carlos y Carolina, Buenos Aires

THE NEW PRESIDENT OF ARGENTINA

This photograph of President Hipólito Yrigoyen, standing in the presidential coach surrounded by the military and a great crowd of enthusiastic citizens, was taken as the procession entered the Avenida de Mayo. A continuous ovation was given the Chief Executive along the entire line of march from the capital to the Casa de Gobierno, and seldom has such a popular demonstration been accorded to an incoming president.



Courtesy of "P. B. T.," Buenos Aires.

IN BUENOS AIRES ON INAUGURATION DAY.

The picture shows part of the military parade and a section of the crowd in the plaza on the occasion of the inauguration of Dr. Hipolito Irigoyen as President of the Republic of Argentina, October 12, 1916.

to be, in a certain sense, the same as American interests. The guaranty which the Panama Canal gives to the United States is our guaranty also; the defense of this great work our defense; the power of the United States there our very existence as a nation. This is easily comprehensible and explainable. The further happiness of Panama depends upon your consideration and respect for our smallness. Everything points to the fact that the friendship will be perpetual between the small Republic of Panama and the very great, powerful, and rich one of the United States. That friendship having been begun under the best auspices, those of the incorporation in the community of nations of one under the protection of the other, they are two nations which have no cause to envy each other and which never can be rivals. Would that I might be able, at the termination of my mission here, to point with pride to having contributed to this in an effective manner.

Receive, Mr. President, the message of sympathy which I bring to you from the President of my country. Receive also my best wishes, which are all for your personal welfare and glory, as well as for the prosperity and glory of the United States.

President Wilson's reply to the minister's address was as follows:

MR. MINISTER: I receive with pleasure from your hands the letter of His Excellency the President of Panama accrediting you in the capacity of envoy extraordinary and minister plenipotentiary of that Republic near the Government of the United States.

Permit me to express to you this Government's sincere appreciation of the cordial and friendly message you convey to it from His Excellency, and to say that the character of the message is enhanced by its delivery by a gentleman who has occupied the first office in the gift of the people of Panama and whose previous service as minister of Panama at this capital is still held in most agreeable memory.

I note with satisfaction your remark that the interests of Panama have come to be, in a certain sense, the same as American interests, and I desire to emphasize the fact that the Government of Panama may rest assured that the Government of the United States will always in any action taken, in any suggestion made relating to your Republic, have the community and the identity of the interests of the two peoples in view, not only performing in letter and in spirit the stipulations of solemn treaties but acting in accordance with the unwritten covenants of close relations of friendship and common interest.

You may rely on my efforts, Mr. Minister, to aid you in the performance of the duties of your mission and in the promotion of those common interests of the two countries with the most cordial good will.

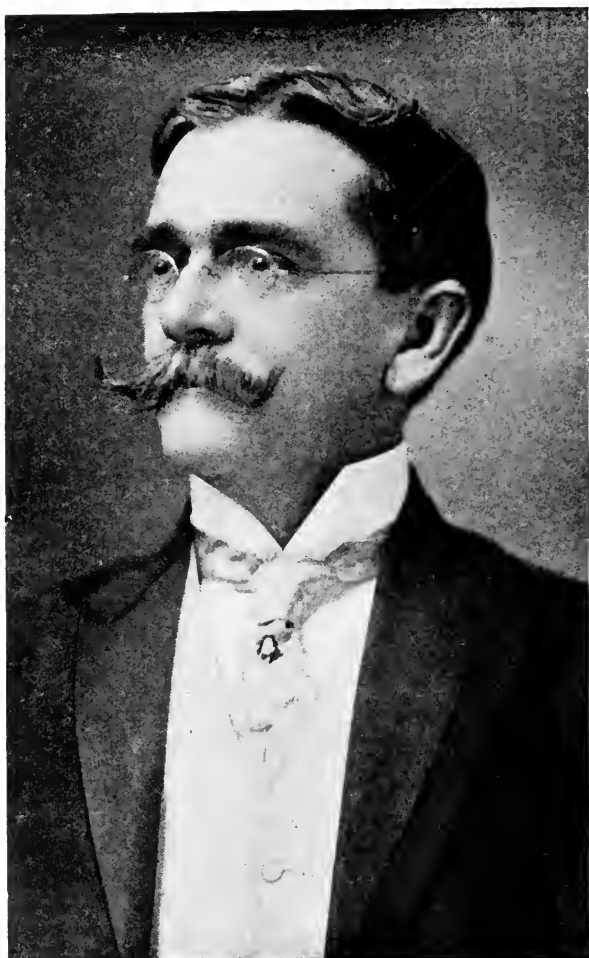
I thank you for the good wishes which you offer on behalf of your Government, as well as of yourself, for the prosperity of the American people, and I trust that you will convey in return my most sincere good wishes to the President of Panama for the prosperity of the Panamanian people, his own welfare and the success of his administration of the Government of the Republic.

In expressing these sentiments, I am sure that I speak also for the people of the United States.

Permit me, also, Mr. Minister, to wish you a most agreeable term of renewed official residence in this city.

MAJ. P. G. EASTWICK ADVOCATES MAKING PANAMA AND COLON FREE PORTS.

Among the principal speakers at the first annual banquet of the Association of Commerce of Panama, recently given at the Central Hotel in Panama City, was Maj. P. G. Eastwick, manager of the Panama Banking Co. In his thoughtful address on "Cooperation" this prominent financier analyzed the commercial situation of the



SENOR DR. BELISARIO PORRAS.

Envoy Extraordinary and Minister Plenipotentiary of Panama to the
United States.

young Republic and outlined several excellent plans looking to the future development of the country's resources. Among other notable suggestions was his earnest plea that the cities of Panama and Colon be made free ports, and in this connection the following excerpts from his address should be of more than passing interest:

The way to make Panama and Colon big cities at the terminals of the Panama Canal, at the central point between North and South America, the Atlantic and Pacific Oceans, the Far East and the Far West, is to make them free cities and free ports. By this I mean free from import and export duties. With free ports there is no reason why merchants and manufacturers from all over the world should not build factories and warehouses and establish branches and agencies in the Republic of Panama, which would become a world's center for quick distribution, delivery, and sale. In fact, it could be made an immense world's department store where everything for the use of the people of all nations could be found. It could become the greatest transshipping port in the world.

The definition of a free port is a harbor where ships of all nations may enter on payment of a moderate toll and load and unload. Free ports constitute great depots where goods are stored without paying duty, and where there is no import or export duty of any kind on goods bought, sold, or consumed. A free port stimulates and facilitates exchange and traffic. The free exchange of commodities, on account of there being no duty, import or export, put the Island of St. Thomas, near Porto Rico, belonging to Denmark and about to be acquired by the United States, on the map. It is a good example of what no export or import duty will do for a poor, out-of-the-way island. Nearly every ship to the West Indies docks there to trade. Its one port carries large stocks and many vessels coal and trade there. If Panama does not grasp the opportunity, St. Thomas under American administration may become an American colonial free port for this part of the world, such as Hongkong is for the Far East, and then Panama will have overlooked the great opportunity which it now has.

FOREIGN TRADE CONVENTION.

Robert H. Patchin, secretary of the National Foreign Trade Council, India House, 1 Hanover Square, New York City, has informed the Pan American Union of the elaborate preparations that are being made for the Fourth National Foreign Trade Convention, which is to be held at the William Penn Hotel, Pittsburgh, Pennsylvania, January 25, 26, 27, 1917. This is organized under the auspices of the National Foreign Trade Council and bids fair to be one of the most important gatherings of its kind which has ever been held in the United States. In view of its bearing upon Pan American trade relations, there are quoted below some extracts from Secretary Patchin's announcement:

The Fourth National Foreign Trade Convention will be essentially a business men's conference. Instead of a program consisting completely of prepared addresses, much of the time will be reserved for "Group sessions," at which a single topic will be intensively discussed by the question and answer method so successful in the previous Foreign Trade Convention at Washington, St. Louis, and New Orleans. Among the topics set for discussion are:

1. Conditions in foreign markets after the war, including the European economic alliances, and the measures necessary to safeguard American foreign trade, as well as the foreign trade aspect of the American tariff system.

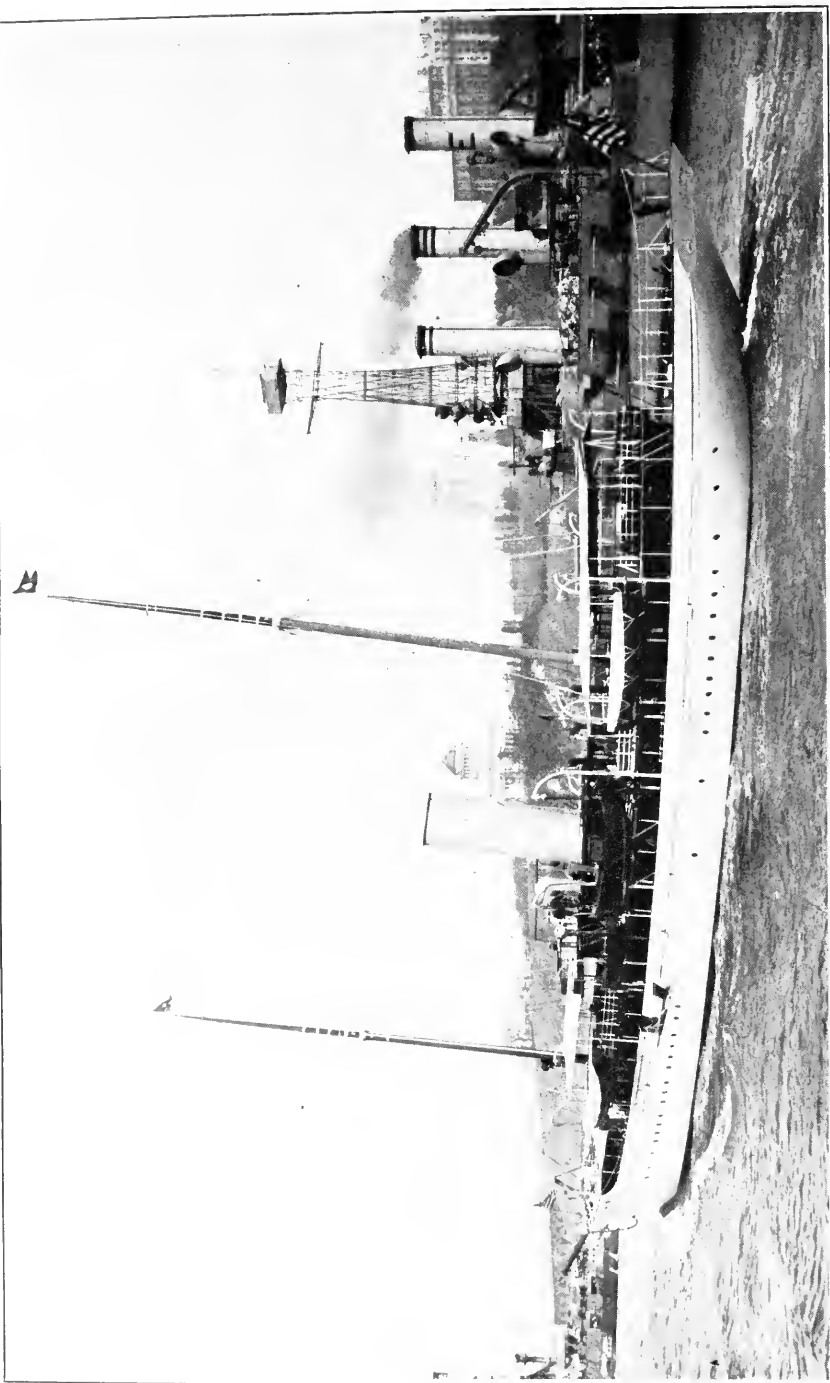


Photo by Edwin Levick, N. Y.

THE "ALBERTA" LEAVING NEW YORK FOR THE AMAZON RIVER.

Dr. A. Hamilton Rice, the well-known American explorer, accompanied by his wife and a party of scientists, left New York, November 16, 1916, on the yacht *Alberta*, with its special scientific equipments, for an extended exploration tour of the Amazon region. Dr. Rice proposes to make his way to the interior by the Amazon and Rio Negro to Santa Isabel, whence he will proceed by steam launch to the river Guiana, which he hopes to trace to its source by using this specially constructed launch as far as possible, and afterwards canoes. In addition to exploring the Guiana, he hopes to survey and map the Casiquari, the Essequibo, the Amazon and Orinoco River systems, and to investigate other hydrographical problems of the region. The party accompanying Dr. and Mrs. Rice includes Dr. W. T. Cushman, professor of pathology at Harvard University; Dr. Ernest Howe, geologist; Earl H. Church, of the United States Coast and Geodetic Survey; and John W. Swanson, wireless expert.

2. Cooperation in foreign trade: The necessity for the relief of exporters from the restrictions of the antitrust laws, which now oblige them individually to meet combinations of foreign rivals encouraged by foreign Governments to resist American competition, and often to sell to combination of foreign buyers equipped to depress the price of American products.

3. Shipping: Foreign investment of American capital in its relation to over-sea commerce.

4. Problems of the smaller manufacturer: How this class of industries, producers, and merchants may more effectively enter foreign markets.

Many other phases of the foreign trade problem will be on the program now in course of preparation.

NATIONAL SAFETY COUNCIL DESIRES RECIPROCAL RELATIONS WITH LATIN AMERICAN COUNTRIES.

The director general of the Pan American Union is in receipt of the following letter from Mr. W. H. Cameron, general manager, secretary, and treasurer of the National Safety Council, an organization whose laudable efforts in preventing accidents in industrial establishments are assuming such large proportions that it is deemed advisable to make its sphere of activity international in scope. It will be noted that the executive committee of the council seeks to establish reciprocal relations with Latin American countries, and it is to be hoped that ways and means will be found in all of the countries of the Americas whereby mutual cooperation and support may be secured.

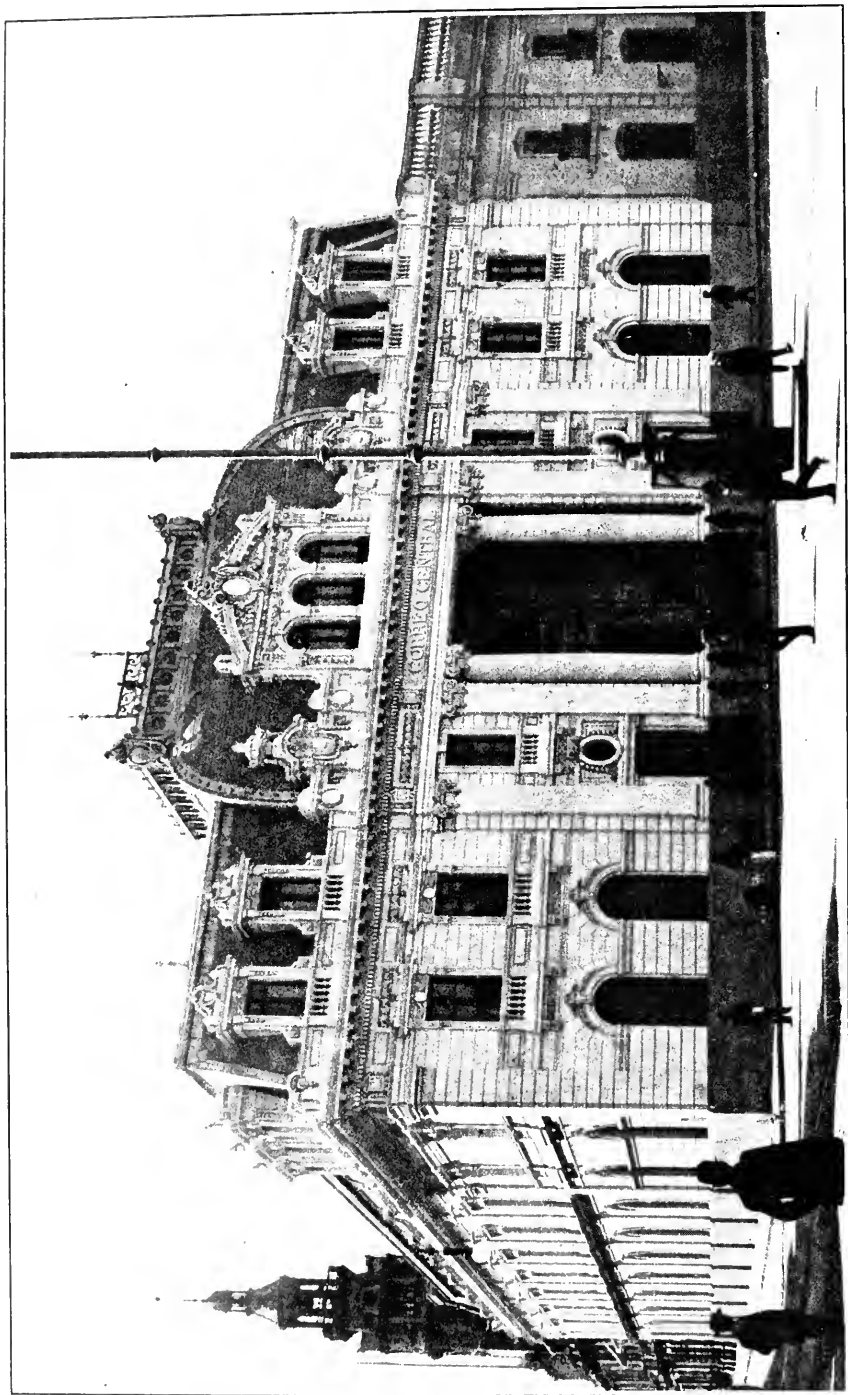
The National Safety Council is a noncommercial body of 2,500 employers representing the leading industries, steam and electric railroads, public utility companies, associations, and individuals. Its aim is the prevention of accidents in the industries, in public places and in the homes through educational means, and for the small annual dues a valuable weekly bulletin and monthly publication service is rendered. Several hundred safety experts give their time and experience as officers and committeemen without charge.

Although the council is only 3 years old it includes 60 members in Canada, several in Australia, two in Japan, one in China, several in Honolulu, two in Africa, several in England, and the Chile copper mines in South America.

Two thousand persons attended the annual congress of the council at Detroit last month, and suggestions are coming to us from various quarters to change our name from national to international safety council.

The United States has accomplished more real progress in preventing accidents in its industries within the past five years than any other country in the world. Europe has depended upon the installation of safety devices which statistics show will prevent only 25 per cent of the accidents. The remaining 75 per cent is an educational problem.

The executive committee of the council would like to establish reciprocal relations with the Latin American countries by exchanging experiences, methods, and means for preventing accidents. This could be done in part by the exchange of publications, through memberships, the interchange of representatives at annual meetings and conferences, and, I believe, if the leading industries of the two countries could know how each other are trying to save the lives and limbs of its workmen, the study together of this common problem of industry would create a better understanding between the employers of the two countries, and fulfill in part the object for which your union has been established.



THE POST OFFICE BUILDING IN SANTIAGO, CHILE.

The building is located at the northwest corner of the Plaza de Armas, the popular park near the center of the business section of the city. In it are installed the general administration offices, the international parcels post section, and other postal services.

THE "PAN AMERICAN ROUND TABLE" OF SAN ANTONIO, TEX.

The BULLETIN is in receipt of an account of the organization of a club composed of many of the most progressive and intellectual women of San Antonio who purpose to make a study of the Latin American Republics, and to lend their energies and influence toward the promotion of a better understanding and more intimate relations between the women of the United States and those of the other American countries. The club, known as The Pan American Round Table, was inaugurated at an elaborate luncheon, during the course of which many congratulatory messages and expressions of cordial cooperation from distinguished statesmen and diplomats were received and read. Among others, telegrams and letters were received from Hon. Robert Lansing, Secretary of State of the United States; Sr. Alberto de Ipanema Moreira, counselor of the Brazilian Embassy; Sr. Don Ignacio Calderon, minister from Bolivia; and Sr. Don Joaquin Mendez, minister from Guatemala.

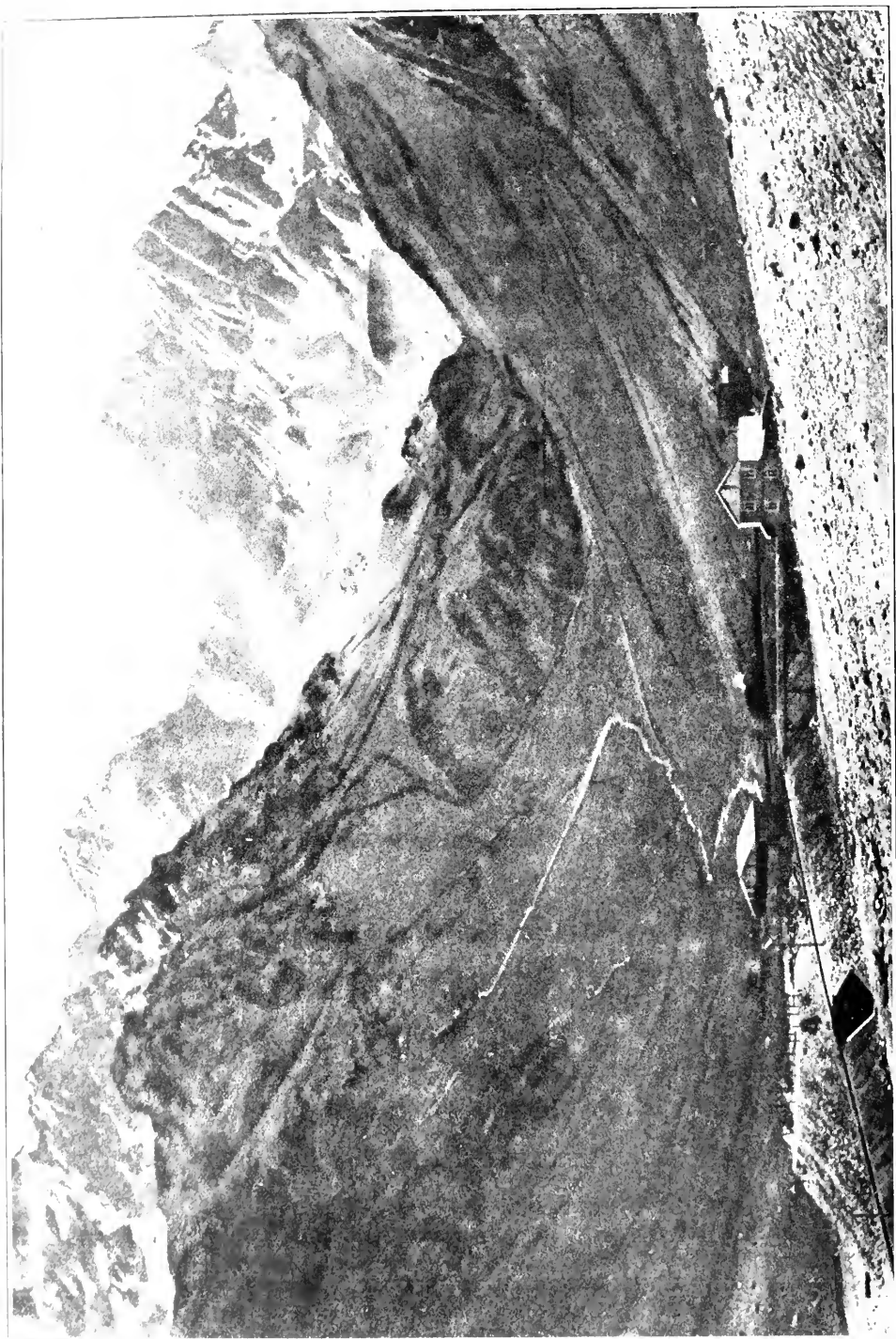
TOURIST CLUB OF MINNEAPOLIS STUDYING LATIN AMERICA.

Among the many prominent women's clubs in the United States now studying Latin America is the Tourist Club, of Minneapolis, Minn. The BULLETIN is in receipt of the club's very interesting program for 1916-17, and desires to extend congratulations upon the scope and character of the course of study outlined. One of the most interesting and profitable meetings of the club took place early in December when Mr. Henry E. Ewing, for several years secretary of the University Young Men's Christian Association in Buenos Aires, addressed the club on the subject of "University and student life in Argentina," a theme which his personal familiarity with student activities in that Republic enabled him to handle in a most pleasing and instructive manner.

THE BUREAU OF EDUCATION, UNITED STATES DEPARTMENT OF THE INTERIOR, ISSUES BULLETIN ON COMMERCIAL EDUCATION.

The Pan American Union is in receipt of Bulletin, 1916, No. 25, published by the Bureau of Education, United States Department of the Interior. Its character and scope are briefly outlined in the following letter of transmittal by Dr. P. P. Claxton, commissioner of education, to the Secretary of the Interior:

SIR: The program of the subsection on commercial education of the educational section of the Pan American Scientific Congress, held in Washington City December 27, 1915, to January 8, 1916, was so comprehensive and the papers of such value that I requested Dr. Glen Levin Swiggett, assistant secretary general of the congress and chairman of the committee on commercial education, to prepare these papers for publication as a bulletin of the Bureau of Education. This he has done in such a way as to preserve the best of the substance of these papers with as little repetition



AN ELEVATED ANDEAN RAILWAY STATION.

Caracoles is a station of the Trans-Andean Railway, about 19,365 feet above the level of the sea. Immediately to the right and just beyond the station may be seen the entrance

as possible. Because of the increasing general interest in commercial education in all parts of the country, and especially in the centers of urban population, I recommend that the manuscript transmitted herewith be published as a bulletin of this bureau.

BOOK NOTES

Tramping Through Mexico, Guatemala, and Honduras. Being the random notes of an incurable vagabond. By Harry A. Franck . . . New York, The Century Co., 1916. 378 p. 8°. illus. Price, \$2.

Polyglot Rubber Trade Directory of the United States and Canada. 1916. New York, The India Rubber World, 1916. 421 p. 8°. Price, \$3.50.

Mexico To-Day: Social, political, and religious conditions. By George B. Winton. New York, Missionary education movement of the United States and Canada, 1913. x, 235 p. illus. maps. 12°. Price, 50 cents.

The Land of the Golden Man. By Anita B. Ferris. New York, Missionary education movement of the United States and Canada, 1916. x, 125 p. illus. map. 12°. Price, 50 cents.

Early Diplomatic Relations between the United States and Mexico. By William R. Manning . . . (The Albert Shaw lectures on diplomatic history, 1913.) Baltimore, the Johns Hopkins Press, 1916. xi, 406 p. 8°. Price, \$2.25.

South American Pilot . . . Published by the United States Hydrographic Office under the authority of the Secretary of the Navy. First edition. Washington, 1916. 3 vols. 8°. Price, 90 cents each.

Vol. 1. East coast, from the Orinoco River to the Plata River.

Vol. 2. Southern part, from the Plata River on the east coast to Corcovado Gulf on the west coast, and including Magellan Strait, the Falkland Islands, and islands to the southeast, and Antarctic South America.

Vol. 3. West coast from Corcovado Gulf to Panama, including off-lying islands.

The Collection of Osteological Material from Machu Picchu. By George F. Eaton, curator of osteology in the Peabody Museum, Yale University . . . (Memoirs of the Connecticut Academy of Arts and Sciences, Vol. 5.) New Haven, Conn., 1916. 96 p. illus. 39 plates, tables, fold. map. C. Price, \$5.

The American Fertilizer Hand Book. The standard reference book and directory of the commercial fertilizer industry and allied trades. The buyer's guide of the trade; where to obtain plant equipment, raw materials, and expert service required in the fertilizer industry . . . Philadelphia, Ware Bros. Co., 1916. [398] p. 4°. Price, \$1.

Proceedings of Fifth National Conference. American Society for Judicial Settlement of International Disputes, December 29-30, 1915. Washington, D. C. Edited by James Brown Scott. Baltimore, Williams & Wilkins Co., 1916. x, 137 p. 8°. Gratis.

Report on Trade and Tariffs in Brazil, Uruguay, Argentina, Chile, Bolivia, and Peru [by the United States] Federal Trade Commission. Washington, Government Printing Office, 1916. 246 p. 8°. Price, 30 cents.

Markets for Machinery and Machine Tools in Peru, Bolivia, and Chile, by J. A. Massel. (Special Agents Series, No. 118, Bureau of Foreign and Domestic Commerce, Department of Commerce.) Washington, Government Printing Office, 1916. 88 p. 8°. Price, 10 cents.

Lumber Markets of the West and North Coasts of South America. By Roger E. Simmons. (Special Agents Series, No. 117, Bureau of Foreign and Domestic Commerce, Department of Commerce.) Washington, Government Printing Office, 1916. 149 p. 8°. Price, 25 cents.

A Commentary on the Declaration of the Rights of Nations adopted by the American Institute of International Law. By Francisco José Urrutia, former minister of foreign affairs in Colombia. New York, "Las Novedades" [printer], 1916. 98 p. 8°.

Hacia el Iguazú. Cataratas y ruinas. Descripciones y apuntes. Por Emilio B. Morales. Buenos Aires, Talleres Jacobo Penser, 1914. 116 p. illus. 12°. [A guide book, giving full details of a trip to, and description of, the Iguazú Falls.]

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO DECEMBER 15, 1916.¹

Title.	Date.	Author.
ARGENTINA.		
"Algarrobin," a new Argentine dye material.....	1916. Sept. 28	W. Henry Robertson, consul general, Buenos Aires.
Proposed reform of Argentine monetary system.....	Oct. 3	Do.
Imports of bottles.....	Oct. 16	Wm. Dawson, jr., consul, Rosario.
Area under agriculture in Argentina.....	Oct. 18	W. Henry Robertson, consul general, Buenos Aires.
Customs decree referring to time allowed for correcting customs-entry declarations.	Oct. 27	Do.
BRAZIL.		
Commerce of port of Santos, 1914-15.....	Sept. 8	Carl F. Deickman, consul, Santos.
Exportation laws of State of Parana.....	Sept. 10	Robert L. Keiser, vice consul, Sao Paulo.
Coffee market.....	Sept. 25	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Crop prospects in State of Rio de Janeiro.....	Sept. 27	Do.
Opportunity for American capital.....	do.	Carl F. Deickman, consul, Santos.
Commerce of Santos, January to August, 1915 and 1916, compared.	do.	Do.
American physicians, surgeons, and dentists in Brazil.	Sept. 28	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Cotton culture in Bahia.....	Oct. 5	Do.
Rice factories in State of Bahia.....	do.	Do.
Odontological Congress.....	Oct. 10	Do.
Good Roads Congress in Brazil.....	do.	Do.
Financial loan.....	Oct. 13	A. T. Haeberle, consul, Pernambuco.
Paper situation.....	Oct. 21	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Commerce of Brazil during first 9 months, 1912-16....	Oct. 23	Do.
Interstate telephone system to be established.....	Oct. 24	Do.
Federation of Cooperative Associations of Rural Credit of Pernambuco.	Oct. 25	A. T. Haeberle, consul, Pernambuco.
Market for American cement.....	Nov. 3	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
CHILE.		
Increasing value of Chilean peso, and some of its effects.	Sept. 26	L. J. Keena, consul general, Valparaíso.
Customhouse returns for September and first nine months of 1916.	Oct. 19	Do.
Chilean commerce and commercial conditions of nine months of 1916.	Oct. 23	Do.
Fuel-oil depot at Valparaíso Harbor.....	Nov. 8	Do.
COLOMBIA.		
Colombian notes.....	Sept. 20	Claude E. Guyant, vice consul, Barranquilla.
Municipal street work in Bogota.....	Sept. 28	Do.
Subvention for packing plants.....	Oct. 12	Do.
Extension of railroad in Colombia.....	do.	Do.
Rupture of Magdalena River pool.....	Oct. 14	Do.
City of Medellin negotiates loan.....	do.	Do.
Market for American table waters.....	Oct. 26	Do.
Annual report on commerce and industries for 1915.	Oct. 27	Do.
Prospective purchase of new railway equipment.....	Nov. 9	Do.
COSTA RICA.		
Appropriation of trade-marks.....	Oct. 17	Samuel T. Lee, consul, San Jose.
Exports from Port Limon, ten months, 1916.....	Nov. 1	Albert B. Pullen, vice consul, Port Limon.
Roofing cement.....	Nov. 11	Benjamin F. Chase, consul, San Jose.
Gasoline motors.....	do.	Do.
Oil-burning locomotives.....	Nov. 20	Albert B. Pullen, vice consul, Port Limon.
Coffee exportation from Costa Rica for ten years.....	Nov. 25	Benjamin F. Chase, consul, San Jose.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to December 15, 1916—Continued.

Title.	Date.	Author.
CUBA.		
Cattle raising.....	Oct. 27	Henry M. Wolcott, vice consul, Habana.
Alleged potash discoveries in Cuba.....	Nov. 3	Do.
New car-ferry steamer between Key West and Habana.....	Nov. 5	Do.
Gasoline motors.....	Nov. 7	R. M. Bartleman, consul, Cienfuegos.
Cuban Government grants subsidy to projected railway in western Province.....	Nov. 17	Henry M. Wolcott, vice consul, Habana.
DOMINICAN REPUBLIC.		
Declared exports from Santo Domingo to United States, quarter ended Sept. 30, 1916.....	Oct. 20	Carl M. J. Von Zielinske, vice consul, Santo Domingo.
Construction of roads.....	Oct. 25	Do.
Banana exports.....	Nov. 1	Frank Anderson Henry, consul, Puerto Plata.
Material for new customhouse at Santo Domingo.....	Nov. 3	Carl M. J. Von Zielinske, vice consul, Santo Domingo.
Advantage of coastwise trade given foreign ships.....	Nov. 5	Do.
Limited market for canned fruits.....	Nov. 7	Frank Anderson Henry, consul, Puerto Plata.
Dominican tobacco crop.....	Nov. 13	Do.
ECUADOR.		
Water hydrant system for protection against fire in Babahoyo.....	Oct. 14	James H. Roth, vice consul, Guayaquil.
Record shipment of cacao.....	Oct. 27	Do.
Public works at Guano.....	Oct. 31	Do.
Establishment of a tuberculosis sanitarium.....	do.	Do.
Public Works Commission for Machala.....	Nov. 4	Do.
Establishment of a custom jury in Ecuador.....	Nov. 6	Do.
Construction of new railway between Chone and Quito.....	do.	Do.
Amendments to the salt monopoly law.....	Nov. 7	Do.
Railroad from Quito to Esmeraldas.....	Nov. 10	Do.
Installation of electric plant at Azogues.....	do.	Do.
Guayaquil market conditions for November.....	Nov. 11	Do.
GUATEMALA.		
Railway improvements.....	Oct. 27	Samuel C. Reat, consul, Guatemala City.
Fine marble deposits.....	Nov. 6	Do.
Revival of Feast of Minerva.....	do.	Do.
Paper trade in Guatemala.....	Nov. 11	Do.
HONDURAS.		
Monetary system and banks.....	Oct. 25	E. M. Lawton, consul, Tegucigalpa.
Atlantida Department.....	Oct. 26	Francis J. Dyer, consul, Ceiba.
MEXICO.		
Shipments of oil for September, 1916.....	Oct. 11	Claud I. Dawson, consul, Tampico.
New customs tariff of Mexico (in part).....	Oct. 19	Wm. W. Canada, consul, Vera Cruz.
New customs tariff of Mexico (art. 111 to end).....	Nov. 18	Do.
PANAMA.		
New pier at Cristobal-Colon.....	Sept. 28	Julius D. Dreher, consul, Colon.
New port in Province of Colon.....	Sept. 30	Do.
Canal traffic for first two years.....	Oct. 13	Do.
Effort to make Colon a free port.....	Oct. 16	Do.
Steamship service between New York and Salina Cruz.....	Oct. 28	Do.
Motion picture shows in Colon.....	Nov. 2	Do.
Data relative to the needs of Government, business, and educational opportunities as preparation for foreign service.....	Nov. 9	Do.
Sale of jewelry in San Blas District regulated.....	Nov. 11	A. G. Snyder, consul general, Panama.
Use of certain slot machines permitted in Panama.....	Nov. 16	Do.
PERU.		
Selling price of opium in Peru.....	Oct. 2	William W. Handley, consul general, Callao-Lima.
Industrial statistics.....	Oct. 4	Do.
Laws and regulations governing the operations of foreign insurance in Peru.....	Oct. 24	Do.
Peruvian transport to ply between Callao and New York in cargo trade.....	Oct. 26	Do.
URUGUAY.		
Tax on advertising.....	Sept. 15	John C. Terry, vice consul, Montevideo.

ARGENTINE REPUBLIC

Plans and preparations for celebrating in January, 1917, the centenary of the CROSSING OF THE ANDES by San Martin are almost completed. Arrangements are being made for erecting several monuments to patriots who participated in the event and for the creation of commemorative tablets and medals. Students from colleges of the Republic and officials from the Government departments, especially from the departments of war and public instruction, will take active part in the celebrations.—The President has sent to Congress a project of law providing for the removal of import and inspection duties on ground YERBA MATE.—According to La Nación, to make up for the shortage in Argentina's SUGAR PRODUCTION and to lower the price of sugar, there will be a further extension of the executive decree of May 31, 1916, prohibiting the exportation of sugar and authorizing the importation, free of duty, of certain quantities of raw and refined sugar.—The committee appointed by the Government to secure suitable lands on which to build HOMES FOR WORKINGMEN has recently acquired large tracts of land in outlying districts of Buenos Aires and work will soon begin extensively in constructing these moderately priced dwellings.—The Argentine Rural Society held its EXPOSITION OF MILCH COWS on the grounds at Palermo, November 2-9, 1916. The number and class of entries made it one of the best shows of its kind ever held in the country. The railroads gave practically one round-trip rate for transportation charges. The cows were milked twice per day and the milk sold for 10 centavos per liter.—At the EXPOSITION OF SCHOOL MUSEUMS recently held at La Plata, exhibits were made from every section of the Province of Buenos Aires and the best exhibits were selected to form permanently the great school museum of the Province. Other provinces of the Republic will soon follow this initiative.—The President has recommended to Congress important reforms in the laws on COASTWISE NAVIGATION, with a view to developing national as well as international commerce.—According to the official report of the ministry of public works, the traffic handled by the RAILWAYS OF THE STATE increased from 33,506,829 tons in 1914 to 35,803,877 tons in 1915; proceeds from 114,742,638 pesos in 1914 to 124,018,000 pesos in 1915; expenses from 78,831,242 pesos in 1914 to 80,062,000 pesos in 1915; gains from 35,911,396 pesos in 1914 to 43,956,000 pesos in 1915. Argentina ranked first in Latin America, third among the nations of the American Continent, and eighth among the nations of the world in the

number of miles of railway in operation. Besides the extension and improvement of various parts of the railway system of Argentina authorized by recent executive decrees, work is at present progressing favorably on the following national lines under construction: Chaco and Patagonian lines; Milagro to San Luis in the Province of San Luis; San Juan to Jachal; Aimogasta to Aminga.—A report recently received by the department of agriculture from an expert on ALFALFA growing in Rio Negro refers to the flourishing condition of the present sowings there and the greatly extended area under cultivation.—Dr. Frank M. Chapman, curator of the ornithological department of the Museum of Natural History of New York, who has been traveling in South America making special studies of its FAUNA, recently lectured before the Ornithological Society of the Plate and the Argentine Society of Natural Sciences, of which he was elected a corresponding member.—The sixth PHILATELIC CONGRESS recently held in Buenos Aires broke all records for attendance and interesting exhibits. Prizes and medals were awarded on 15 classes of stamp collections exhibited, the grand prize, known as the "Visitor's cup," going to Dr. Ernesto Marcó del Pont on his specialized collections of Argentina, Buenos Aires, Cordoba, and Corrientes, and his general collection of all countries.—Three sections of the RIO NEGRO IRRIGATION WORKS have been completed and are ready for the irrigation of 35,000 hectares. These works when completed will irrigate 80,000 hectares in the Rio Negro Valley, some of the best land in the Republic. The project now under way ranks third in importance among such undertakings in the entire world.—During the year 1915, 52,324 passengers from abroad passed through the Buenos Aires customhouse, paying duties aggregating 97,399 pesos on their personal effects. Duties collected on INTERNATIONAL PARCELS POST increased from 354,229 pesos in the first eight months of 1915 to 661,360 pesos in the corresponding eight months' period of 1916.—According to recent reports received by the department of agriculture of the Argentine Government from its correspondents located throughout the country, the present condition of the wheat, flax, barley, and oats crops for the farm year 1916-17 is most satisfactory, due to seasonable rains both at time of planting and since. So far all CROP FORECASTS show improvements over the preceding year.—The total amount of INTERNAL REVENUE collected by the Government during the year 1915 amounted to 63,412,913 pesos, as compared with 53,028,225 pesos collected in 1914. All of the common articles of consumption showed increased revenues for 1915 over 1914. —The FREIGHT TRAFFIC of the port of Buenos Aires for the first eight months of 1916 was as follows: Imports, 224,765 carloads with 2,148,195 metric tons of freight, besides 1,496 carloads of live stock; exports, 76,952 carloads with

301,925 metric tons of freight. The principal products reshipped abroad were, in metric tons: Maize, 624,731; wheat, 467,354; linseed, 117,108; oats, 52,831.—A PROHIBITION LEAGUE has been formed in the national capital to secure laws restricting the sale, manufacture, and introduction from abroad of spirituous liquors.—The secretary of the American Shorthorn Breeders' Association visited Argentina in the fall of 1915 and arrangements have been made since for the sale and exchange between the two countries of PURE-BRED CATTLE.—BUSINESS FAILURES during the month of September, 1916, showed a considerable decrease in respect to total liabilities as compared with the corresponding month in 1915.—According to La Prensa, the municipal authorities of Buenos Aires have allowed the company supplying GAS to the city an increase in price of 3 centavos per cubic meter.—The Italo-Argentine Electrical Co. have recently completed and put into full operation their powerful ELECTRICAL SHOPS in Buenos Aires.—The new PACKING HOUSE on the Rio Grande River in the Territory of Tierra del Fuego, will be completed and officially inaugurated by January 1, 1917. It will give employment to more than 200 workmen.—According to information given out by the director general of statistics, total EXPORTS during the first eight months of 1916 were 5,404,049 tons, valued at 303,167,562 pesos gold, as compared with 7,398,649 tons, valued at 384,733,349 pesos gold, in the corresponding period of 1915. As compared with first eight months of 1915, exports showing an increase were: Frozen beef, 15.8 per cent; frozen mutton, 57.6; goat hides, 41; salted ox hides, 12.7; oats, 20; quebracho extract, 11.8. Exports showing a decrease were: Sheep pelts, 38.3 per cent; dried ox hides, 40.4; barley, 39.7; linseed, 31; maize, 39.7; wheat, 32.5; bran, 85.8.



BOLIVIA

The NEW RADIO STATION on the heights of Viacha near La Paz has been completed, and on October 20 the first radio message between the Bolivian capital and Lima, Peru, was received in the latter city. Several messages were exchanged between the two cities, and the opening of this modern method of communication will greatly facilitate official and commercial interchange. By the aid of the Lima-La Paz service the Peruvian capital may talk with Asuncion, the capital of Paraguay, the latter having been recently linked with La Paz by wireless towers. Bolivia now has seven stations.—A NEW DAILY PAPER has made its appearance in Oruro under the name

of Los Andes. The director of the journal is Federico Renjel, who is said to be well qualified for the post. *El Imparcial* of the same city devotes half a column to the new enterprise in its issue of October 5.—**THE NATIONAL CONGRESS** convened in extra session in La Paz on October 19 to consider a number of important matters pressing for attention and which could not be discussed during the ordinary session recently closed.—*El Tiempo* of La Paz, under date of October 19 briefly reviews **BOLIVIAN PROGRESS**. Among other things it states that the electrical railway from La Paz into the Yungas region will be completed in about three years; and that the railway between Oruro and Cochabamba, now constructed almost to the vicinity of the latter city, will be finished by July, 1917.—In November the Government started **CONSTRUCTION WORK** on the proposed railway between Potosi and Sucre, and it was gratifying to the officials and to those in charge of the work to note the degree of cooperation that is evinced on the part of landowners through whose properties the new road will be built. At the present time automobile trucks are in use in handling the traffic between the two cities.—La Patria, of Potosi, recently published a list of the 22 Presidents that have ruled Bolivia since the country achieved its independence in 1825. Each President was noted for certain characteristics or important works inaugurated during his official term. President Montes is termed "**EL GRAN PRESIDENTE**," and on his recent fifty-fifth birthday it was shown that he had spent 36 years in the service of his country or closely associated with its progress.—Bolivian **COPPER STATISTICS** recently compiled show the gradual increase of copper exportation and other interesting data. In 1911 there were shipped to foreign countries 2,950 metric tons of barilla copper; the following year the amount increased to 4,707 metric tons; and in 1915 the amount given is 5,867 tons. *El Diario* of La Paz under date of September 29 contains details of copper and other mineral production of Bolivia.—Officials in charge of the customhouse at del Norte (northern Bolivia) have advised officials in La Paz of the recent shipment of 1,790 quintales (about 101 pounds equal 1 quintale) of **SUGAR** destined for domestic consumption in the capital city. With the completion of the electric railway into the Yungas region the sugar production in Bolivia is likely to be given a new impetus.—In the House of Deputies a bill was presented asking authority for the prefectura of the Department of Potosi to contract a **LOAN** for building an automobile highway from Uncia to Machacamarea. The bill names 50,000 bolivianos (a boliviano is equivalent to about 40 cents United States money), and the work is proposed to begin early in 1917.—Dr. Alexandro Trigo, a member of the National Congress from Tarija, has presented for discussion a bill relative to the contraction of a loan of 250,000 bolivianos for the building of an **AUTO-**

MOBILE HIGHWAY from Tarija to Villazon.—Several Bolivian automobilists recently made the journey from LA PAZ TO THE PORT OF GUAQUI on Lake Titicaca in five hours, or at the rate of about 12 miles per hour. Considering the gradual climb for 60 miles and the fact that in various places the road was in bad or even impassable condition for automobiles, the trip was a pronounced success and may lead to highway improvement between the city and the port.

BRAZIL

On September 15, the steamer *Highland Harris* cleared from the port of Rio de Janeiro with a cargo of 2,603 metric tons of FROZEN MEAT. Cattle to the number of 10,180 were killed for this shipment. An additional 300 tons was taken on board at Santos, making a total of 2,903 metric tons, the largest single cargo of frozen meat ever shipped from Brazil. The export of meat from Brazil has increased from 2,646 metric tons, valued at 1,826 contos paper (conto paper = about \$250 U. S. currency), for the first eight months of 1915 to 19,714 metric tons, valued at 15,634 contos, for the corresponding period in 1916.—The total value of EXPORTS of the State of Minas Geraes for the year 1915 amounted to 220,000 contos, of which sum 75,200 contos, or 34 per cent of its total, was for meat alone. The cattle industry is to Minas Geraes what coffee is to São Paulo, rubber to Amazonas, sugar to Pernambuco, and cacao to Bahia, which State produced one-third of the world's cacao in 1915.—The culture of TOBACCO has greatly increased in the State of Rio whose lowlands are especially adapted to the best Habana varieties, and the recent harvests have netted good profits to growers. The State has reduced the export tax on tobacco and is encouraging in every way its cultivation.—As a result of the last sugar cane harvests, the State of Pernambuco produced a total of 1,170,700 bags of 75 kilos each in 1916 against 1,910,500 bags in 1915. Drought was the cause of the shortage in the SUGAR output.—The total amount of INTERNAL REVENUE collected by the Government during the year 1915 amounted to 67,776 contos, being 6,286 contos more than was estimated in the budget and an increase over 1914 of 15,448 contos.—On September 1, the Portuguese Chamber of Commerce of Rio de Janeiro addressed a cable to the President of the Republic of Portugal and other public officials, urging the immediate establishment of a Portuguese LINE OF STEAMERS between Brazil and Portugal.—The total number of pupils enrolled in the SCHOOLS of the State of Santa Catharina increased from 11,000 in 1909 to 29,686 in 1915.—

The city of São Paulo has made arrangements for contracting a LOAN through New York bankers of \$5,500,000 to be expended in refunding outstanding obligations and in certain municipal improvements.—The BOUNDARY DISPUTE between the States of Parana and Santa Catharina has been settled satisfactorily to both States and the limits fixed as suggested by the President of the Republic.—According to the Revista Commercial do Para, to maintain uniformity in making out consular invoices of shipments of BRAZIL NUTS to the United States, 112 pounds will be considered as the equivalent of a hectoliter of nuts.—Plans are shortly to be submitted to the Federal Government for the construction of an AUTOMOBILE ROAD between the Federal District and the city of Petropolis on which a regular automobile service will be maintained as soon as constructed.—According to the Commercio do Parana, the BRIDGE over the Parapanema River, binding together the States of Parana and São Paulo, will soon be completed.—Rapid development has taken place in the exportation of BEANS from Brazil, the exports increasing from 224, 921 kilos, valued at 81 contos, in the first eight months of 1915 to 4,664,350 kilos, valued at 1,402 contos, in the corresponding period of 1916.—The total FOREIGN COMMERCE of the port of Santos for the first eight months of 1916, according to data furnished by the department of agriculture of the State of São Paulo, was 408,788 contos paper, made up of imports to the value of 138,085 contos and exports of 270,703 contos. The total value of the foreign trade for the first eight months of 1915 amounted to 350,865 contos, of which sum 96,014 contos represented imports and 254,851 contos exports. There was, therefore, for the first eight months of 1916 an increase in imports of 42,071 contos and an increase in exports of 15,852 contos, or a net gain in the first eight months' foreign trade of 57,923 contos. Raw cotton, iron, steel, machinery, chemicals, and leather were some of the products that showed an increase over the imports for the 1915 period, while all of the exports increased in value over the 1915 period. The number of vessels entering the port during the first eight months of 1916 was 821, of 1,744,861 tons, compared with 915 vessels, of 2,024,811 tons, in 1915.—According to official statistics, the year 1915 was the most prosperous on record for Brazilian STEAMSHIP COMPANIES. In the oversea export trade alone the freight receipts increased from 1,720 contos paper in 1914 to 11,137 contos in 1915.—Among the important changes effected by the new Brazilian CIVIL CODE, published in the Official Gazette of January 5, 1916, and which will go into effect on January 1, 1917, are new provisions for property rights, mining rights, domicile and homestead rights, marriage, divorce, and rights of women, which are especially protected and safeguarded.

CHILE

Congress has recently passed a law authorizing the expenditure of 1,000,000 pesos gold in repairing VESSELS of the national navy. The amount expended will be taken from the revenues made by these ships on commercial voyages.—The Chilean Government has appointed Dr. Enrique Gonzáles to visit the United States and study the methods employed by Dr. Alexis Carrel of the Rockefeller Institute of New York in GRAFTING INTO THE HUMAN BODY parts lost through accident or operation.—On October 9, the minister of public instruction presided at an evening entertainment given in the University of Chile, at Valparaíso, by the English department, under the auspices of the National Educational Association of University Extension, in honor of the CARNEGIE FOUNDATION and to stimulate interest in the university students who intend entering universities in the United States in the year 1917.—October 12, COLUMBUS DAY, was celebrated throughout the Republic with impressive ceremonies. In the large cities, games, floral parades, banquets, and literary programs were part of the manifestations in honor of the day.—A mechanic living in Valdivia has invented a FOLDING METALLIC LADDER which takes up little room. It has a spring mechanism and can be hung from any support and folded up again very quickly. It is especially serviceable in case of fire on account of which its inventor has called it the “life-saving ladder.”—The Chilean press announces that some prospectors of Iquique have recently discovered in the desert situated between the Departments of Taltal and Copiapo extensive deposits of MAGNETIC IRON, samples of which on being analyzed and tested in the best laboratories of Chanaral gave an average of 70 per cent pure metal. The newly discovered deposits are near the coast and the railway lines of Atacama and the Province of Antofagasta, in the Department of Taltal.—The municipality of Valparaíso has approved the plans and estimates of expenditure for the construction of a STADIUM in Playa Ancha Park by the Antialcoholic League. The total cost of the work is estimated at 1,151,000 pesos.—A recent executive decree creates a COMMITTEE OF ENGINEERS and technical experts and provides for a school of advanced studies in engineering.—The Arica-La Paz Railway Co. has begun work on the construction of the ARICA PIER to relieve the constantly increasing pressure for more handling space, due to the greatly increasing national and foreign commerce.—A BOARD OF INDUSTRIAL INSTRUCTION has been created in Santiago with full powers of supervision over institutions of technical instruction under the

ministry of industry and public works.—According to official data, on September 30, 1916, there were still in circulation 16,485,000 pesos in 12 PENCE BILLS, replaced in accordance with law 2654 of May 11, 1912.—Sr. Eduardo Heyraud has obtained a concession from the National Government to construct and exploit an ELECTRIC RAILWAY between Santiago and Renca. The gauge will be 1 meter and the length approximately 8 kilometers.—On October 3, 1916, the branch of the NATIONAL CITY BANK of New York was opened in Valparaiso. The new bank will confine its attentions for the present to promoting commercial relations between Chile and the United States.—A decree has been issued specifying new conditions for the construction of PRIVATE RAILWAYS in view of recent concessions by the State, and also modifying certain laws governing those at present existing.—The Argentine Government has had a BRONZE TABLET placed on the tomb of ex-President Don Pedro Montt in the cemetery of Santiago, with the following inscription: "The people and Government of the Argentine Republic dedicate this remembrance to the memory of Don Pedro Montt, illustrious statesman, who as President of the Republic of Chile, not only visited Argentina but took part in the celebration of the glorious centenary of 1910."—The *Diario Ilustrado* of Santiago announces that the Government has decided to ask for proposals for placing an INTERNAL LOAN of 5,000,000 pesos gold in Treasury bonds, as part of the 20,000,000 pesos loan recently authorized by Congress.—The MUSEUM of Anthropology and American Ethnology of Santiago was opened to the public at the end of September. Six large halls were filled with exhibits, among which were the collections made by Dr. Don Aureliano Oyarzúa and other eminent ethnologists. The Inca and pre-Inca periods and early civilization of Tiahuanacu were represented by especially noteworthy exhibits.—The managements of most of the railways have decided to use WOOD AS A FUEL instead of coal, and many trials already made have given most satisfactory results. One of the first trials was made on a freight train between Puerto Montt and Osorno. The engines pulled 19 cars, were fed only with wood, and arrived at their destination on schedule time. A great impulse has been given to the exploitation of forests, especially along the railways and coast.—A chemical company of Valparaiso has recently established in the town of Calera a large FACTORY for the manufacture of medicinal and chemical preparations, and its products will soon be on the national market.—Preliminary steps have been taken by Felipe Blanco Viel, who was prominently connected with the successful industrial exposition recently held in Santiago de Chile, looking to the holding of a PAN AMERICAN EXPOSITION in Valparaiso in 1918. According to press reports the President of the Republic and the boards of trade of Santiago and Valparaiso favor the plan.

COLOMBIA

A recent law of the National Congress authorizes the executive power to have constructed, either directly or by contract, CUSTOM-HOUSE BUILDINGS at Barranquilla in accordance with general plans prepared for that purpose.—A bill has been introduced into the National Congress with the object of increasing the production of certain agricultural EXPORT PRODUCTS, by encouraging private persons and agricultural companies to plant coffee, cacao, rubber, perennial cotton, and coconut palm trees in quantities exceeding 5,000 and by offering a bounty of 20 cents on each of such trees brought to a bearing condition, in excess of 5,000, payment of the bounty to be made, in accordance with the provisions of the law, after the harvesting of the first crop.—Sr. Luis Martínez Delgado, of Bogota, has informed the MONTHLY BULLETIN that the next CONGRESS OF STUDENTS of the Republic of Colombia will hold its inaugural session in the national capital on March 6, 1917. The members of the organizing and convoking board of this congress are as follows: Tulio Rubiano, Luis Martínez Delgado, and Gonzalo Pérez.—It has been officially announced that the bases of a TREATY OF FRIENDSHIP AND COMMERCE between Colombia and Venezuela, which will solve the former differences between the two countries, have been agreed upon.—In 1915 there were 4,200 PRIMARY SCHOOLS in operation in the Republic with an enrollment of 298,541 pupils.—A new COMMERCIAL PUBLICATION entitled "Review of the Board of Trade" is being published in Barranquilla.—The Government of the department of Antioquia has reduced the MINTAGE ON GOLD COIN from 0.01 to 0.005 per cent.—According to data compiled by the customs office at Barranquilla, the Government of Colombia remitted to London in 1915 for account of the FOREIGN DEBT, £282,000. The customs administrator has been instructed by the Government to continue these remittances without interruption.—It is estimated that the MONETARY CIRCULATION of Colombia is about \$25,000,000, or \$4.50 per capita. The annual gold coinage of the country is about \$5,000,000.—The municipality of Medellín announces that the first series of MUNICIPAL BONDS issued recently to obtain funds to construct an aqueduct in that city, have been disposed of.—The minister of the treasury of the Government of Colombia has introduced a BUDGET bill into the House of Representatives of the Colombian Congress showing the estimated receipts and expenditures for the fiscal year 1917, in which the receipts are given as \$14,720,000, gold, and the expenditures, \$16,354,387. After the consideration of

the budget by congress and its adoption by that body either in its original or amended form, the bill will be sent to the President of the Republic for approval.

COSTA RICA

According to data published by La Informacion, of San Jose, the CONSUMPTION OF CATTLE in Costa Rica in 1896 was 18,100 head of imported cattle and 16,111 head of native cattle; in 1907, 12,828 imported and 25,273 native; in 1914, 11,037 imported and 34,413 native; and in 1915, 10,256 foreign and 39,855 native. During the first three months of 1916 there were 12,795 head of cattle slaughtered in the Republic, and it is estimated the total of slaughtered cattle will reach 51,000 head during the year 1916. The greatly increased consumption of native cattle is stimulating the owners of ranches and farms to engage in the raising of stock on a larger scale.—The Agricultural Industrial Association of Limon is trying to make arrangements with the United Fruit Co. whereby the private TELEPHONE LINES of the company between Limon and San Jose may be used for public service, and it is expected that an agreement will shortly be effected.—The Imparcial of San Jose announces that Sr. Hector Esquivel Deliot has entered a claim for a MANGANESE MINE situated near Santa Rosa, Province of Guanacaste, and Sr. Simón Navarro a claim for rich gold-bearing veins in Jamaica Canyon, Canton de Tarrazu. The exploitation of these mines will begin immediately upon the issuance of titles of ownership by the National Government.—The Government has authorized Sres. Félix Wiss and Francisco Gutiérrez to utilize the waters of the Aguas Zarcas River for developing a 700-horsepower ELECTRICAL PLANT to furnish electricity to the city of Limon. A period of two years is granted for the installation of the plant and other necessary works.—The department of fomento has recently published some important pamphlets on the development of AGRICULTURE in the Republic along new lines and on the advisability of establishing a department of agriculture.—Certain leading agriculturists of the country have taken preliminary steps for the formation of an AGRICULTURAL ASSOCIATION whose aims will be to promote the advancement of agriculture in all its branches. It is proposed to do away with the middleman and to deliver the products direct to the consumer, regulating the prices and adjusting them in such a way that they will remain fixed and not liable to fluctuate. It is the purpose of the new association to buy land in the vicinity of the Federal capital or at a convenient shipping point, on which to raise all the agricultural products needed by the capital, to be supplied direct to

the consumer at reasonable prices.—The Government of Costa Rica sent representatives to the international FARM CONGRESS, held in El Paso, Tex., October 19–21, 1916. The object of this congress was to encourage better and more scientific methods in cultivation, especially in regions where irregular rainfall occurs, and to teach new methods for the preservation of moisture by scientific means.—To encourage interest and enthusiasm in matters of science, literature, philosophy, and art, a STUDENT'S ASSOCIATION has been organized in San Jose. The society will hold regular public meetings at which important papers will be read.—The new York & Cuban Mail Steamship Co. established on September 30 last a new freight and passenger STEAMSHIP SERVICE between New York and the Pacific ports of Costa Rica, Nicaragua, Honduras, Salvador, Guatemala, and Mexico by the direct route through the Panama Canal. The *Jalisco* was the first ship of this line to pass through the canal, and there will be a ship every 21 days in this service, the next one being the *Mexico II*. These two steamers are each of 5,000 tons and were constructed a year ago with every modern convenience and the latest improvements in naval construction. The first has a capacity for 55 first-class passengers and the second for 75. The Ward Line has also recently established a new service between New York and the Pacific ports of Central America. Its steamers will leave New York the 15th and 30th of each month and will touch at Habana, Progreso, Puerto Mexico, and Colon on the Atlantic side, and Panama, Puntarenas, Acajutla, and San Jose de Guatemala on the Pacific, ending the voyage at Salina Cruz, and returning by the same ports as on the outgoing trip.—Sr. Don Ernesto Martín, consul general of Costa Rica at Paris, has been named LEGAL ADVISOR of the legations of Costa Rica in Germany, Belgium, Spain, France, Great Britain, Netherlands, and before the Holy See.—COLUMBUS DAY, October 12, was celebrated throughout the country with impressive ceremonies. Last year was the first time the day was generally observed in Costa Rica.—Congress has voted the sum of 100 colons weekly for repair of the HIGHWAY from Cartago to the Federal capital.—The municipality of San Mateo has called for public bids on the new MARKET which is soon to be built there.



The BUDGET of the Department of Public Works submitted to the National Congress for the fiscal year 1917–18, provides for the construction of the following works: New construction in Bayamo in accordance with the law of May 18, 1914, \$575,576; construction

of a section of tramway from Los Palacios to connect with the central highway, \$25,000; construction of a highway from Managua to Santiago de Las Vegas, \$55,000; construction of a wagon road from Santo Domingo to Sietecito, \$50,000; completion of the wagon road between Jiguani and Baire, \$40,000; construction of the national capitol, \$500,000; erection of monument to Gen. Máximo Gómez, \$100,000; construction of the palace of justice in Santiago de Cuba, \$100,000; construction of provincial institute and educational offices in Matanzas, \$75,000; construction of palace of justice in Santa Clara, \$150,000; construction of the Roque Canal, \$500,000; reconstruction in Victoria de las Tunas Park, \$5,000; continuation of the Gibara aqueduct, \$40,000; sewerage of Pinar del Rio, \$100,000; Trinidad and Casilda waterworks, \$125,000; paving and draining of Manzanillo, \$50,000; paving and street repair at Camaguey, \$80,000, and for the electric light company, \$12,000, or a total in round numbers, of \$2,872,900. In addition to the foregoing the budget provides for road construction, repair of streets, etc., in the six provinces of the Republic, to the amount of \$3,669,890.—According to press reports an OIL PROSPECT SHAFT sunk by the Natural Gas & Petroleum Co. of Habana to a depth of 700 feet, gave a daily flow of 800,000 cubic feet of gas. In another shaft in the vicinity, bored to a depth of 1,100 feet, petroleum was encountered below the 1,000-foot level.—To accommodate the tourist trade and increased passenger and freight traffic to the island, which is always heavy during the winter months and which promises to be exceptionally large during the coming season, the Occidental Peninsular Steamship Co. of Habana has placed in operation two FERRYBOATS, the *Henry M. Flagler* and the *Joseph R. Parrott*, to be used in a daily service between Habana and Key West. Freight cars run aboard these ferries and are transported to the terminal points for unloading or for shipment to final destination. The *Joseph R. Parrott* is a vessel of 2,406 gross and 1,114 net tons, while the *Henry M. Flagler* has 2,669 gross and 878 net tons. The former vessel uses oil-burning engines and has a capacity for 32 cars. The maiden trip of this vessel from Key West to Habana was made on November 4 last.—The PLAZA HOTEL in the city of Habana has employed R. G. Elbert, an American hotel man formerly connected with the McAlpin Hotel, New York, as its manager. The hotel proposes to especially cater to the tourist trade during the coming winter.—A large number of contractors, engineers, and architects, representative of the building trades in Habana, have agreed to establish an EIGHT-HOUR DAY for labor employed by them.—The Isle of Pines PUBLICITY LEAGUE, organized to advertise that part of the Cuban Republic as a tourist resort and citrus fruit producing country, proposes to make a 1,500-foot motion picture film, showing the chief places of interest on the island, for use in the

United States.—The Northeastern Railway Co. of Cuba, which was organized in April, 1916, has planned to build a RAILWAY which will pass through some of the great sugar centrals of the country, such as Gerardo, San Joaquin, and Nueva Era, and penetrate the copper-mining region of the Republic. José Marina Aguirre is president and Dr. Alberto Jardines y Navarrete, secretary of the company..

DOMINICAN REPUBLIC

The HOUSE OF REPRESENTATIVES of the National Congress, which met in the city of Santo Domingo on September 29 last, elected as its chairman or speaker, Congressman Furey Castellanos; as its vice chairmen or speakers, Congressmen Rafael C. Castellanos and Leonte Vásquez, and as its secretaries, Emilio A. Morel and Juan Tomás Mejía. The house has also chosen Octavio Landolfi, archivist, and José María Calero, assistant archivist.—Among the Dominican students abroad who have SCHOLARSHIPS from the Government, the following are studying in the United States: Mario Antonio Acevedo, Manuel Mota, and José Ramón Rojas Isambert, who are, respectively, taking courses in civil engineering at the Rensselaer Polytechnic Institute, Troy, N. Y., the Indiana University, Bloomington, Ind., and the Brooklyn Polytechnic Institute, Brooklyn, N. Y.—The new WHARF AND CUSTOMHOUSE at Puerto Plata, which are expected to be completed and ready for use within the next 12 months, are to cost about \$220,000. The plans provide for the construction of a warehouse along the water front, the dredging of the bay so that vessels can load and unload at the wharf, and the extension of the railway alongside the warehouse. In 1915 the imports into the Dominican Republic through the port of Puerto Plata were valued at \$1,880,224, as compared with \$1,293,832 in 1914. The exports from this port in 1915 amounted to \$2,051,137, as compared with \$1,342,110 in 1914. In 1915 the principal articles exported from Puerto Plata consisted of cacao, valued at \$924,113, leaf tobacco, invoiced at \$649,900, and coffee, valued at \$145,357. This port is the second in importance in the Republic, and the principal port of the northern part of the island.—According to press reports the Dominican Government has authorized the owners of sugar plantations in the eastern part of the country to bring into the Republic 5,000 AGRICULTURAL LABORERS to assist in harvesting the crops. These laborers are imported principally from Jamaica and the Danish West Indies.—The BARAHONA CO., an American corporation organized under the laws of the State of New York and owners of large tracts of land in the Province of Barahona, has been authorized by the executive power to establish definitely its domicile within the

territory of the Republic in accordance with the provisions of article 13 of the civil code.—*La Nación* (the Nation), a weekly newspaper published in the city of Santo Domingo, contains in its issue of September 29, 1916, the by-laws of the COLOMBIAN ACADEMY, recently founded in the city of Santo Domingo. The work of the academy is divided into a section of history and geography, a section of foreign relations and social and political sciences, and a section of fine arts, philosophy, and letters.—José del Monte, a Dominican citizen, has been authorized by the Dominican Government to develop gold and other MINES recently discovered by him in the Province of Seybo.—The Official Gazette of October 11, 1916, contains a decree permitting foreign ships, when authorized by the proper customs authorities, to temporarily engage in the COASTWISE TRADE of the Republic with the object of relieving any shortage of domestic vessels which may occur.—The Macoris Sugar Co., a corporation organized under the laws of the State of Delaware and which owns a SUGAR PLANTATION in the Province of Seybo, with its principal office in the city of San Pedro de Macoris, has established its domicile in the Republic in conformity with the provisions of article 13 of the civil code.



ECUADOR

A recent decree of President A. Baquerizo Moreno suspends the authority given the administrators of customhouses in the Province of Manabí to receive promissory notes, payable in six months, from exporters of VEGETABLE IVORY for the duties on exports of this product, and requiring on and after October 1, 1916, the payment of said duties in cash.—According to *El Globo* (the Globe), a daily newspaper published in Bahía de Caraquez, the National Congress which adjourned in October, 1916, enacted a law providing for the raising of funds for the construction of a RAILWAY from Chone to Quito, which is the unconstructed part of the French concession known as the Bahía de Caraquez to Quito Railway, which covers a distance of about 350 kilometers (217.5 miles). The French company according to press reports, owing to the financial stringency brought about by the European war, was unable to continue the work, and it therefore became necessary for the Government of Ecuador to take the matter in hand. This is a 0.75-meter gauge road. The part already built runs from Bahía de Caraquez to Chone, a distance of 80 kilometers (49.7 miles), and was opened to traffic in 1912. The part of the road built by the French is reported to be in bad condition, and the National Government has undertaken to reconstruct same and to materially lengthen or eliminate some of the sharp curves of the line.

A retaining wall is also being built near the station at Bahia de Caraquez to protect the railway from damage by heavy seas and the tides.—The consul of Ecuador in San Francisco has taken steps to obtain from Luther Burbank a considerable quantity of SPINELESS CACTUS for planting in the Province of Manabi.—The House of Representatives of the National Congress has approved bills providing funds for the installation of an electric LIGHT AND POWER PLANT in Guano, and for the sewerage and paving of Portoviejo.—The general BUDGET of the National Government sets aside 160,000 sucres (sucre = \$0.4867) for the Manta to Bahia Railway, 8,000 for the Portoviejo Hospital, and 10,000 sucres for the school of arts and crafts of said city.—The President of the Republic has promulgated a law providing that laborers, employees of stores, offices, industrial establishments, and in general, all classes of employees shall not be required to work more than EIGHT HOURS daily, and are exempted from labor on Sundays and legal holidays. Should employees request employers to permit them to work longer than the eight hours specified, the employers must pay for such excess services 25 per cent more for day work, 50 per cent more for work between 6 p. m. and midnight, and 100 per cent more for work performed between midnight and sunrise than the regular schedule. 'Thirty days' notice must be given by employers as well as employees before terminating their contractual relations.—A law has been promulgated authorizing the association of agriculturists of Ecuador to collect 3 sucres (\$1.46) per quintal of 46 kilos of CACAO exported through the ports of the Republic for a period of five years.—On September 24, 1916, the Carlos R. Tobar LIBRARY at Bahia de Caraquez was opened to the public.—The municipality of Guaranda has arranged with Dr. Navarro for a supply of electric LIGHT AND POWER for a period of 10 years.



GUATEMALA

The total FOREIGN TRADE of Guatemala for the year 1915, compiled from official reports, amounted to \$16,639,062 United States gold, represented by imports to the value of \$5,072,476 and exports of \$11,566,586. The balance of trade in favor of the Republic was \$6,494,110.—In connection with the celebration of the ninety-fifth anniversary of CENTRAL AMERICAN INDEPENDENCE held in Guatemala September 14-17, 1916, many important public works were inaugurated in different parts of the country, among which were: Independence Park in the city of Amatitlan, governor's palace in Comalapa, public bathing pools in Patzicia, Children's Park in Acatenango, José Rufino Barrios

Park in El Tejar, public fountain in center of the principal square of Santa Lucia, and courthouse and prison in Estanzuelas de Jumay, Santa Rosa. In the national capital, the chief executive and other high Government officials attended the ceremonies connected with the inauguration of the municipal lyceum Joaquina, of the Institute of Higher Instruction for Young Ladies, and of the new building of the PRACTICAL SCHOOL FOR MALES. According to the Guatemalan press, the practical school for males is the most beautiful school building in the country, ranks among the best of its kind in Latin America, and is equipped with every modern educational facility. It is two stories high, of most beautiful architecture, and finished with delicate cornice and molding work. The front has two rows of windows, iron doors at the principal entrances, and the large columns in front of the main entrance give the building the appearance of a modern temple. The main vestibule has large columns and its ceilings are finished with most artistic moldings.—On October 2 a BUST of the President of the Republic, Sr. Don Manuel Estrada Cabrera, was unveiled in the hall of honor of the military academy. It was presented to the academy by La Juventud Liberal, a political club of Guatemala.—The executive power has authorized the municipality of Quezaltenango to contract a loan with the Occident Bank, proceeds of which will be used for purchase of the GALINDO BATHS situated in Almolonga, of the same Department. The municipality of San Juan Astunecalco, Department of Quezaltenango, has also secured executive authority for contracting a loan for the construction of important public works.—The new FREIGHT SCHEDULE of the Central American International Railway went into effect on October 1, 1916, affecting the rates on coffee, hides, rubber, sugar, and other export products.—According to information furnished the ministry of internal affairs and justice by the governor of Santa Rosa, the TEMPLE OF MINERVA in the city of Santa Rosa and the school for children in Cuajiniquilapa will shortly be completed.—An executive order provides for the purchase by the Government of a number of copies of the new DIRECTORY OF GUATEMALA, published by Marroquín Bros. of the capital city, to be distributed among the legations and consulates of the Republic abroad.



Le Moniteur, official daily of Haiti, in a recent issue publishes a list of IMPORTANT LAWS which the council of state now has under revision. The section of public instruction and internal

affairs has in preparation the following laws: Boundaries, divisions, and subdivisions of the public territory; expropriations for the public welfare; administration and inspection of instruction; election of deputies and senators by the district electoral colleges; municipal councils; creation of civil officers to represent the executive power in the municipalities and districts; organization and powers of the State, and state of siege. The section of finances, posts, and telegraphs has under consideration a law on courts of accounts, and that of justice and foreign relations, laws on naturalization, jurisdiction of courts of appeal, civil service, and organization of the supreme court of justice.—The National Government has created a PRIMARY SCHOOL annexed to the girls' normal of Port au Prince.—An executive decree of September 22, 1916, provides for the ELECTION OF DEPUTIES at the approaching elections on January 15, 1917, and makes important modifications in the election laws, principally as regards the manner of voting and the number of deputies. In future there will be one deputy for each district, except that of Port au Prince, which will have three, and those of Jacmel, Cape Haitian, Port de Paix, Gonaives, San Marcos, Cayes, and Grand Anse, which will have two each.—A NEW WEEKLY is now being published in Jacmel, entitled "Le Paysan Haitien," under the management of M. Justin Loyer.—With reference to the BUDGET for the fiscal year 1916-17, a recent executive decree prorogues the law of October 24, 1876, articles 17 to 24, 52 and 53 of that of August 3, 1900, and that part of the latter law concerning the tariff on new industries not provided for in the law of October 24, 1876. The proceeds of the tariff on vehicles and public shows will be distributed among the municipal hospitals.—Le Moniteur of September 27 publishes the full text of the AGREEMENT negotiated between the National Government and the National Bank of the Republic whereby the latter becomes a depository of the national treasury.—According to data published by the ministry of finance and commerce, the proceeds of the NATIONAL TELEGRAPHS in the first six months of 1916 aggregated 20,139 gourdes and \$7,391 American gold.—The Haitian press publishes the full text of the proposed CONSTITUTION prepared by the council of state for submission to the National Assembly, which will shortly convene. The press congratulates the Government on having made it publicly known in advance that it may be carefully studied before its final adoption.—The National Bank of the Republic has recently had published a book of 143 pages containing important financial, statistical, and economic DATA ON HAITI, preceded by an article on the causes of American occupation and their financial and economic effects.—During the months of July and August, 1916, there were exported to New York through the different ports of the Republic

the following HAITIAN PRODUCTS: Coffee, 300,286 pounds; cacao, 110,137 pounds; cottonseed oil, 1,370 pounds; raw cotton, 608,456 pounds; campeche wood, 30,003,577 pounds; guayacan wood, 355,141 pounds; goat hides, 87,637 pounds; ox hides, 47,001 pounds; beeswax, 7,877 pounds; tortoise shell, 54 pounds; old metals, 12,581 pounds; sponges, 165 pounds; and honey, 34 pounds. The total value of these products amounted to \$676,237 American gold.—A recent presidential decree provides for courses in the NATIONAL LAW SCHOOL on Roman law, history of French and Haitian law, civil law, criminal law, commercial law, civil procedure, constitutional law, administrative law, public and private international law, political economy, and a comparison of financial legislation of Haiti with that of other countries. These subjects will cover a period of three years, and at the end of each year a general examination will be held on the subjects completed. Students who pass the examination of the second year will obtain the degree of bachelor of law.

HONDURAS

According to official reports, the FOREIGN COMMERCE of Honduras for the fiscal year ending July 31, 1915, was: Imports, \$5,874,000; exports, \$3,142,157; total, \$9,016,157. For the preceding year the figures were: Imports, \$6,624,930; exports, \$3,421,331; total, \$10,046,261.—A fortnightly REVIEW OF JURISPRUDENCE, entitled "Foro Hondureño," has recently appeared in Tegucigalpa as the official organ of the Honduras Law Association. The new publication will discuss matters of interest pertaining to Central American laws and jurisprudence. —In connection with the celebration of the ninety-fifth anniversary of Central American independence there was unveiled in Tegucigalpa on September 15 last, a BUST of Don Dionisio de Herrera in the park bearing his name.—The Honduran press announces that a number of capitalists of Juticalpa have organized a company for DREDGING THE PATUCA RIVER and making it navigable throughout most of its course. It is the longest river in Honduras, drains one of the richest timber and agricultural regions of the country, and the main part of the river is already navigable and can be improved at small cost to admit ocean-going vessels. —The municipality of San Pedro Sula has declared it advisable to construct a CANAL to divert the winding waters of the Bermejo River into a straight channel.—According to news published in the Nuevo Tiempo of Tegucigalpa, a company has been organized in New York for exploiting the PETROLEUM

DEPOSITS of Honduras, and machinery has already been sent there for drilling test wells.—Sr. Pedro Pacheco has secured a concession from the Government for exploiting the CASTOR OIL industry in the Department of Cortes.—According to the published statements of the three BANKS of issue of Honduras, they have the following paid-up capital and outstanding paper: Bank of Honduras, capital, 417,500 pesos, bank notes, 505,000 pesos; Bank of Atlantida, 625,000 pesos, bank notes, 236,000 pesos; Bank of Commerce, 500,000 pesos, bank notes, 44,000 pesos. The amount of silver in circulation in Honduras is estimated at 2,500,000 pesos, which with the 785,000 pesos paper money gives a total money circulation in the country of only 3,285,000 pesos.—An office has been organized at Tegucigalpa under the direction of the department of agriculture for making special studies on the different DISEASES AMONG ANIMALS, especially cows and horses, and on being furnished with the necessary data the office will answer inquiries directed to it and advise treatment and remedies in given cases.—In celebration of the anniversary of Central American independence various PUBLIC SCHOOLS were inaugurated in different towns and cities of the country, among which was a girl's school in the town of Villanueva, Department of Cortes; mixed schools in Esparta and Oropendolas, Department of Atlantida; and a school for males in San Juan de Opoa, Department of Copan. Various important PUBLIC WORKS were also inaugurated to commemorate the event including the municipal buildings of Ilama and San Luis and the highway from Amapa to Ceguapa in the Department of Santa Barbara; the San Marcos aqueduct, Department of Ocotepeque; the public abattoir of Amapala, and the prisons and sanitary system of the town of Nacaome, Department of El Valle; "Doctor Bertrand" Avenue in Puerto Cortes, and the new channel of the Cholma River in the Department of Cortes; the public market of San Francisco, Department of Atlantida; the road from Progreso to the Ulua River, the public market and slaughterhouse of Progreso, and a large dam on the Machigua River in Yoro, Department of Yoro. The majority of these improvements are to be at the expense of the different municipalities.—On September 20 last, the NEW HOSPITAL founded by the Vaccaro Co. was inaugurated in the city of La Ceiba



MEXICO

Press reports state that the educational authorities of Mexico have decided to substitute instruction in ENGLISH in the place of French in the public schools of the country. The study of Latin and Greek in the Government schools was abandoned some time ago.—The

NAVAL ACADEMY at Vera Cruz is soon to be reopened. Under the new curriculum provision has been made for the instruction of cadets and officers in modern appliances of sea fighting.—The department of fomento is revising all CONCESSIONS for the exploitation of natural resources granted under former administrations. Among those which have received attention are those referring to imports of dynamite, exports of guano, pearl fisheries, and the collection of valuable plumage of rare birds.—The Board of Health of the City of Mexico reports that TYPHUS fever has diminished 80 per cent, and that the disease has been successfully combated by the authorities.—The department of communication and public works has planned a comprehensive system of RAILWAY EXTENSION through sections of the Republic rich in natural wealth but which are only partially developed because of a lack of transportation facilities.—A NORMAL SCHOOL has been opened in the city of Cuernavaca, State of Morelos.—The department of fomento has sent a TECHNICAL COMMISSION to the Territory of Quintana Roo to study the flora, fauna, climate, and natural resources of that section of the Republic.—A NIGHT SCHOOL for workmen has been opened in the city of Vera Cruz, and a school of arts and crafts established at Saltillo.—The department of public works has undertaken the RECLAMATION OF LAND now covered by the waters of Lake Texcoco.—The American Metals Co., engaged in foundry and machine work at Torreon, has resumed operations.—The PAPER MILL at San Rafael, a suburb of the City of Mexico, has reopened its plant and is now turning out large quantities of news and other paper.—Maj. Romualdo Zamacona has perfected a DEVICE FOR AUTOMATICALLY STOPPING TRAINS running at a high speed within a short distance. American railway men have invited the inventor to demonstrate his device in the United States and Maj. Zamacona has arranged to do so.—Steps have been taken looking to the holding at an early date of a local CONGRESS OF STUDENTS in Merida, Yucatan, for the purpose of discussing measures tending to the moral and intellectual uplift of the student body of that Commonwealth.—During the latter part of October, 1916, an INDUSTRIAL SCHOOL for girls was established in the city of Queretaro.—The Government of Mexico has authorized R. E. Brooks to build and operate for 10 years a WILARF on the Panuco River, Canton of Ozuluama, State of Vera Cruz.—The bureau of mines of the department of fomento has granted a concession to Laso, Farias, and Navarro to prospect and work GOLD PLACERS in the beds of Zapotillos and Libertad Creeks, district of Arteaga, State of Michoacan.—According to El Universal, a daily newspaper of the City of Mexico, the Government will soon put gold

and silver coins in circulation known as **CALENDAR COINS**, inasmuch as they will have the Aztec calendar engraved on the reverse side and the Mexican eagle on the obverse. The coins are to be gold and silver, and the first denomination to circulate will be a gold coin of the denomination of 10 pesos (\$5).—In October last direct **WIRELESS** service was established between the station in Lower California and those of Cuaymas, Manzanillo, Guadalajara, and the City of Mexico. A wireless station is now being erected in the city of Oaxaca. An executive decree prohibits the establishment of wireless stations in the Republic without the permission of the Federal Government.—The Government has sent a **RAILROAD COMMISSION** to the United States to place contracts for cars and locomotives of an approximate value of \$1,000,000.—A **MEDICAL MILITARY SCHOOL** was opened in the City of Mexico on October 12, 1916.



NICARAGUA

The Atlantic coast of the Republic of Nicaragua has long been famous for the abundant yield, quality, and size of the **COCONUTS** exported from some of the well-kept plantations which dot, here and there, the shore and near-by islands of the Caribbean Sea from Cape Gracias a Dios to San Juan del Norte (Greytown). Especially is this true of the nuts that have been regularly shipped, during the last few years, from Corn Island, due to their fine flavor, their well-proportioned size, and their excellent keeping qualities. Recently an American enterprise, the Coconut Plantation Co., in which New York, Philadelphia, and Boston capitalists, represented in Nicaragua by Dr. G. I. Kheiralla, E. P. Knapp, and O. W. Barrett, are interested, acquired the Gross coconut properties which extend along the beach below Monkey Point between Indian and Corn Rivers for a distance of about 32 miles. E. P. Knapp, the business manager of the company, states that the headquarters of these properties and the homes of the resident officers are at Haulover, midway, approximately, between Indian and Corn Rivers. Lately the company has been actively engaged in making new plantings and in cleaning and thinning the parts of the old groves wherever it was considered advisable to do so. The management proposes to scientifically cultivate the coconut groves of the company and to this end has secured the services of O. W. Barrett, formerly chief of the agricultural department of the Philippine Islands, a noted agronomist and a specially trained and practical worker in all branches of the coconut industry. The enterprise is putting in a large copra drying plant and has planned to

buy the entire output of the undersized nuts of the Atlantic coast region of the Republic, curing the same and shipping the product to foreign markets. Heretofore there has been no market for small coconuts in Nicaragua because of the lack of facilities for preparing copra for export, and these nuts have been a total loss to the growers. When the copra plant referred to is in operation, which it is expected it will be within a short time, there will be a market in Nicaragua for all the coconuts grown on and tributary to the coast regardless of size. The company intends to employ for the present a light-draft schooner of about 50 tons burden in the operations connected with this industry, and later expects to increase the number of vessels in accordance with the growth of the export business and as the demands of the copra plant may require.—A press dispatch states that the PACIFIC RAILROAD CO., due to the scarcity of crude oil as a fuel, has temporarily suspended the operation of its Monday, Wednesday, and Friday trains between Leon and Corinto, Maysaya and Diriamba, Chinandega and El Viejo, and Managua and Granada.—The Otis Manufacturing Co. of New Orleans, which is extensively engaged in the exportation of precious woods from Nicaragua, lost in a VIOLENT STORM in the vicinity of Cape Gracias a Dios about the middle of October last the mahogany steam schooner *Edward L. Hines*. This schooner was of about 900 tons burden and was formerly used as a freighter on the Great Lakes. The steamer *Mercator*, also engaged in the transportation of mahogany for this company from the East Coast to New Orleans, was uninjured and will continue in this trade as formerly.—The new DISTILLING PLANT, which has just been inaugurated at La Hacienda, Nicaragua, is under the management of Intendant Gen. J. Solórzano Diaz.—The consul general of Nicaragua in Cuba has appointed Emilio Villaverde, editor and owner of the magazine *Cuba Ilustrada*, chancellor of the Nicaraguan CONSULATE in Habana.—According to press reports construction work will soon commence on the RAILWAY from Fonseca Bay to Chinandega City, at which place it will connect with the present line to La Paz, proceeding thence to Chontales and Momotombo. A branch line is planned to be built from or near Boaco to Matagalpa. The main line will continue on to the Atlantic coast.



The National Assembly in session on September 30, 1916, elected Sres. Ciro L. Urriola, Ramón F. Acevedo, and Pedro A. Díaz first, second, and third DESIGNADOS (vice presidents), respectively. — The seven CODES of laws prepared and submitted by a special

codifying commission have been approved by the National Assembly and ratified by the President of Panama. These codes are the civil, penal, commercial, judicial, administrative, fiscal, and mining, and include an up-to-date compilation of all the laws now in force in the Republic. They will go into effect January 1, 1917.—The executive power has recently issued a decree regulating the law on CIVIL REGISTRATION, with a view to simplifying the status of foreigners residing in the Republic.—The National Assembly has authorized the President to order the coinage of FRACTIONAL CURRENCY of the denominations of $2\frac{1}{2}$ and 5 centesimos de balboa up to the sum of 25,000 balboas, the new coins to be of the same designs and characteristics as those of similar denominations now in use.—Congress has authorized the executive to contract in the Republic or abroad a LOAN approximating 600,000 balboas for canceling outstanding obligations and for meeting necessary expenses in the construction of public works now under consideration. The loan will be for a period of five years at an annual interest not exceeding 8 per cent and the necessary guarantees for obtaining it will be made.—The mayor of the district of Panama issued a decree on October 17, 1916, modifying RATES ON TRAFFIC in the capital of the Republic as given in decree No. 32 of 1915.—According to press news, the National Mexican Steamship Co. has established a new STEAMSHIP SERVICE to Panama from Los Angeles and San Francisco, Cal. The vessels of the new line will touch at 14 points, employing 40 days in making the round trip. A steamer will leave Los Angeles every two weeks. It is also announced that a 10-day service will shortly be inaugurated between Los Angeles and New York by the Panama & Pacific International Merchant Marine.—The Diario de Panama publishes the full text of a law presented to the National Assembly creating a NATIONAL FARM BANK and providing 1,000,000 balboas for the initial capital of the institution. According to the law, the personnel of the bank will include a manager, expert, secretary, and cashier who will be appointed by the National Assembly for a period of six years and who can only be removed from office for reasons affecting their competency and good conduct. The bank's business will be supervised and directed by a consulting board residing in the capital of the Republic.—A presidential decree of October 11, 1916, modifies article 3 on PARCELS POSTS, as given in decree No. 37 of March 10, 1909, and provides that in future packets and parcels will be accepted for the domestic service that do not exceed in weight 20 pounds or 9,200 grams and whose maximum length in any direction does not exceed 105 centimeters (3 feet 6 inches) and 180 centimeters (6 feet) in length and thickness combined. The weight and dimensions of parcels for the foreign service will be regulated in accordance with existing conventions now in force or that

may be negotiated in future for the exchange of parcels post.—According to data published by the Commerce Association of Panama, the value of **PRODUCTS EXPORTED** from Panama to the United States in 1915 was \$3,361,710, the principal items being as follows: Bananas, \$2,197,250; balata, \$328,662; coconuts, \$251,086; hides, \$183,322; vegetable ivory, \$102,800; ipecac, \$90,043; tortoise shell, \$37,634; cacao, \$32,671; rubber, \$23,373; deerskins, \$19,764; old metals, \$15,873; mother-of-pearl shell, \$14,367; tallow, \$14,054; straw hats, \$5,648; sarsaparilla, \$11,076; and other products, \$34,087. **IMPORTS** from the four principal countries for the same year were as follows: United States, \$7,022,000; Great Britain, \$1,175,000; France, \$180,000; and Germany, \$9,000. The total value of imports from all countries was \$9,305,000 in 1915, against \$9,885,000 in 1914.

PARAGUAY

The Paraguayan **SOCIETY OF INTERNATIONAL LAW** has been organized in Asuncion with the following executive board: President, Dr. Cecilio Báez; vice presidents, Dr. Eusebio Ayala and Don Fulgencio R. Moreno; secretary, Don Ramón Lara Castro; treasurer, Dr. Teodosio González.—During the month of August the **CUSTOMS RECEIPTS** of the Asuncion customhouse aggregated a total of 4,367,866 pesos paper.—On September 11, a **NEW SCHEDULE** of office hours in most of the administrative departments went into effect, fixing the working hours from 6.30 to 11.30 a. m.—A recent presidential decree limits the number of students in the **MILITARY SCHOOL** to 47 and declares closed further applications for enrollment during the academic year 1916-17.—The director general of mails and telegraphs has authorized the long-distance **WIRELESS** telegraph station in the city of Encarnacion to be opened to public service.—The **INTERNATIONAL COMMERCE** of the Republic showed a balance of trade in its favor for the year 1915 of 1,594,745 pesos and for the first seven months of 1916 of 323,048 pesos.—A work is now in preparation entitled **EL PARAGUAY ILUSTRADO** (Paraguay Illustrated) which will be a good addition to the books available on Paraguay, bringing up to date the most interesting features in the progress and development of the country.—Drs. Tomás Bello, Luis E. Migone, and Luis Zanotti Cavazzoni represented Paraguay at the **International American CONFERENCE OF MICROBIOLOGY AND PARASITOLOGY** which was recently held in Buenos Aires.—The President of the Republic has named Sr. Venancio B. Galeano and Sr. Ramón E. Fretes **COLLECTORS OF CUSTOMS** at Asuncion.—The number

of PRIMARY SCHOOLS operating in the Republic in 1916 aggregated 1,046 with 1,558 teachers. The number of pupils registered in these schools was 80,000 which shows a steady increase since 1912, when the total enrollment was 44,618.—The President has accepted the resignation of Dr. Tomás Bello as director of the DEPARTMENT OF HYGIENE and named Dr. Benigno Escobar, director of public charities, to fill the post until a successor is appointed.—The Centro Estudiantil (Students' Club) of the national capital and other similar clubs throughout the Republic celebrated September 22 as STUDENTS' DAY. A notable feature of the celebrations was a pilgrimage made by the students' clubs and other patriotic associations to the tomb of the hero of Curupayty, at Recoleta, in commemoration of the fiftieth anniversary of that battle.—Harvard University has established a special PARAGUAYAN SECTION in its library and is making an important collection of works on the life and development of the country.—The PRESS CLUB of Asuncion at a recent meeting elected executive officers for the coming year, Sr. Arsenio López Deoud being named president, and Sr. Rogelio Ibarra, vice president.

PERU

An executive decree of September 25, 1916, authorizes the establishment of a service of INDUSTRIAL STATISTICS under the direction of the department of fomento (promotion). All industrial establishments of the Republic are required by this decree to furnish the Government with whatever data and information may be desired which will be collected and published annually in book form.—El Peruano of October 6, the official daily of Peru, published an executive decree making important modifications in the rules and regulations governing the service of LIGHTHOUSES controlled by the Government.—According to the recent report of the director general of posts and telegraphs, the cost of constructing TELEGRAPH LINES in Peru varies considerably in coast and interior lines. The cost per kilometer (0.62 mile) on each class of lines is given as follows: with iron posts, coast, £40, inland, £45; with wooden posts, coast, £20, inland, £25. The cost of upkeep for the coast lines is greater than for the interior lines, due to the need of more frequent renewal of coast lines of wire, insulators, and wooden posts.—The municipal authorities of Lima have approved plans for creating a square in Lima to be called SAN MARTIN SQUARE. A monument in honor of Gen. José de San Martín will be erected in the center of the square.—On Sep-

tember 30, 1916, the executive promulgated a law requiring all passenger steamers of 1,500 tons or more that touch regularly at ports of the Republic to install WIRELESS APPARATUS with a minimum transmitting power of 300 miles. A period of six months from passage of the law is allowed the Pacific steamship companies to comply with all requirements of the law under penalty of their steamers not being admitted to any port of the Republic.—The President has issued a decree directing that a FLORAL EXPOSITION shall be held annually in Lima during the spring season to promote development in national floriculture. Provision is made for the holding of a preliminary exhibition in Lima beginning on November 12, 1916, and an executive committee named to make the necessary arrangements.—According to La Prensa of Lima, the Booth Line of steamers will shortly purchase the Amazon River Steam Navigation Co.'s boats and inaugurate a NEW LINE OF STEAMERS between Manaus, Brazil, and Iquitos.—According to the official report recently submitted by the National Tax Collecting Co., the REVENUE derived from taxes during the first six months of 1916 aggregated 734,156 Peruvian pounds, or an increase of 73,101 Peruvian pounds over the corresponding period in 1915, and was distributed as follows: Alcohols, 206,531, showing an increase of 44,535 over the 1915 period; tobacco, 242,702, an increase of 24,806; schools, 59,332; departmental, 88,390; municipal, 114,963; public utilities, 66,771, and from various other sources.—The Government has granted Sr. José Balta the right to make a survey for a new RAILWAY between a terminal point of any of the lines existing at present in the Department of La Libertad and the mining region of Sayapullo. The conditions on which the line is to be constructed will be settled upon completion of the survey.—El Peruano of October 3, 1916, published the full text of the new HABEAS CORPUS LAW, as recently amplified and passed by Congress with the approval of the President.—On September 27, 1916, the minister of finance issued an order increasing the price of OPIUM to 6 Peruvian pounds per 460 grams.—As compared with the first eight months of 1915, large gains in all departments of the POSTAL SERVICE are shown in the corresponding period of 1916. International money-order service is now in force between Bolivia and Peru and parcel-post conventions will soon be negotiated with Colombia and Argentina.—The traffic and net proceeds of the PERUVIAN STEAMSHIP CO. for the first six months of 1916 exceeded those for the entire year of 1915. Freight handled by the company during the first six months of 1916 aggregated 73,412 tons of exports and 22,470 tons of imports, against 71,883 tons of exports and 16,430 tons of imports handled during the entire year of 1915. The net proceeds of the company for the first six months' period of 1916 amounted to 136,053 Peruvian pounds.

SALVADOR

The executive power, in connection with the inauguration in the national capital of an underground TELEPHONE SERVICE, issued special rules and regulations for the city of San Salvador, providing for the following payments: Subscribers of the first class, 20 pesos (peso = \$0.3537) per month; of the second class, 15 pesos; of the third class, 10 pesos, and of the fourth class, including rural service, 7 pesos per month. The charges for telephone extension or for an additional telephone is 1 peso; for moving a telephone in the same building or into an adjoining building, 3 pesos, and for an extension bell, 1 peso.—The commission appointed by the Salvadorean Government, consisting of Carlos Azúcar Chávez, Marcus A. Leton, Juan E. Aberle, and Rubén Martínez, to study the geographic, topographic, hydrographic, and climatic conditions of the different islands in the Gulf of Fonseca belonging to the Republic of Salvador, with the object of selecting one of these for use as a PENAL AGRICULTURAL COLONY, has made a careful examination of the same and submitted an interesting report upon the following islands: Meanguera, Conchaguita, Martín Pérez, Punta Zacate or Zacatillo, Meanguerita, Irea, Cuchito, Perico, and Conejo. Of the foregoing islands the commission advises that Punta Zacate or Zacatillo, situated at the entrance of Union Bay, with an area of 483 hectares, is the most appropriate for the founding and maintenance of an agricultural penal colony. This island has an unfailing spring of water, a good climate, a safe landing place, and considerable level or partially level land suitable for cultivation.—The Western Railway has ordered two powerful DREDGES from San Francisco to be used in removing the sands now obstructing the Acajutla wharf in order to facilitate the lading and unloading of vessels. In 1914 the imports into Salvador through the port of Acajutla consisted of 19,581 metric tons of merchandise, valued at \$2,793,912, 10,868 tons of which, invoiced at \$1,152,869, came from the United States.—In September last Santa Rosa, a prosperous village of about 2,000 inhabitants situated on the Lempa River some 28 kilometers from Metapan, became an incorporated town. The President of the Republic presented the new municipality with a gift of 500 pesos.—Mariano A. Moran and José Ruiz Velis, of the city of Chalchuapa, have established a WEEKLY PUBLICATION entitled “La Voz de la Juventud” (The Voice of Youth). The editor and manager of the publication is José Ruiz Velis.—The authorities of the city of Metapan have decided to establish an ACETYLENE LIGHTING PLANT for that municipality, and have arranged for the repair of the public highway between that city and

Santa Ana.—On October 12, 1916, Doña Sara M. de Meléndez, wife of the President of the Republic, conducted an ENTERTAINMENT in Colon Theater in the city of San Salvador, the proceeds of which were donated to the society for the protection of poor children.—The number of MARRIAGES in the Republic of Salvador in 1915 was 3,886; the number of births, 51,058, and the number of deaths 37,447, or an excess of births over deaths of 13,611. The population of the Republic at the beginning of 1916 was 1,267,762, and the annual increase in population during the last 10 years, 22,000.—The production of CORN in Salvador in 1915 was almost double that of 1914; that of beans more than treble, and that of rice over 35 per cent.—The COFFEE crop for 1914–15 amounted to 770,073 quintals (quintal=101 pounds), and the sugar production in 1915 consisted of 119,313 quintals of refined and 66,904 quintals of raw sugar.

URUGUAY

The office of statistics and publications of Uruguay gives the following data concerning the CEREAL CROPS for the year 1915–16: Area sown—wheat, 384,290 hectares; flax, 17,863; oats, 42,518; barley, 3,924; canary seed, 2,371; and rye, 30; which gives a total of 459,996 hectares sown in cereals, against 394,836 hectares in 1914–15. The total production in 1915–16 was: Wheat, 2,685,433 quintals; flax, 99,217; oats, 331,383; barley, 25,126; canary seed, 13,350; and rye, 184; or a total of 3,154,693 quintals, against 1,277,895 quintals in the previous year. The yield per hectare in quintals in 1915–16 was as follows: Wheat, 7; flax, 5.6; oats, 7.8; barley, 6.4; canary seed, 5.6; and rye, 6.1.—During the first six months of 1916 the two PACKING HOUSES, Montevideo and La Uruguay, slaughtered 221,652 beeves and 99,814 sheep, against 227,075 and 126,047, respectively, in the corresponding period of 1915.—During the first six months of 1916, 80,656 BEEVES were slaughtered for consumption in the navy.—The National Congress has passed a law reorganizing the service of NATIONAL PUBLIC CHARITIES which in future will be governed by an administrative council composed of a director general and nine members, seven members to be named by the executive, one by the council of the medical faculty, and one by the expert personnel of public charities. The members will be appointed for three years and can be reelected. The President has approved this law.—By a presidential decree the office of public credit has been authorized to ISSUE BONDS for nationalizing the debt of the port of Montevideo. These bonds in accord-

ance with the law for nationalizing port services, will be delivered to a port commission which will supervise the paying of interest and amortization of same from the national revenues. There will be an issue of \$2,500,000 worth of these bonds, 2,000 having a face value of \$1,000, 800 of \$500, and 1,000 of \$100, and they will bear the signatures of the minister of finance, auditor general of the nation, and director of the office of public credit.—The executive has issued a decree fixing the boundaries of the JUDICIAL DIVISIONS in the Department of Rio Negro.—Congress has appropriated the sum of \$25,000 for the construction of a secondary SCHOOL FOR MALES in Liberty Square in the city of Florida.—The Government has established a SCHOOL FOR MILITARY AVIATION in Montevideo and is equipping it with the best modern flying apparatus for giving practical instruction. Prof. Cataisbert of the School of Aviation of Villa Lugano, and an expert in constructing air planes, has been placed in charge of the new military institution. Uruguay already has many good airmen, among whom may be mentioned Lieut. Cesáreo Beriso, who recently came out first in an aerial contest in Argentina in a flight from Buenos Aires to Mendoza, in which he won the South American championship of aviation.—A law has been enacted which provides that BUILDINGS constructed on public highways or avenues, excepting those of the city of Montevideo and other large cities of the Republic, shall be at least 10 meters from the nearest edge of said highways. Buildings erected on streets or avenues within the city of Montevideo and other cities of the Republic must be at least 4 meters from the nearest boundary line of said thoroughfares.—Sr. Don Alfonso Silva y Antuña, present envoy extraordinary and minister plenipotentiary of Uruguay at Asuncion, had special powers conferred upon him to represent his Government at the recent celebrations on the occasion of the inauguration of the President of the Republic of Paraguay.—A TREATY has been concluded between the representatives of the Governments of Argentina and Uruguay defining definitely the respective possessions of the two countries among the numerous small islands of the River Uruguay. The treaty will shortly be placed before the legislative bodies of the two signing countries for approval.

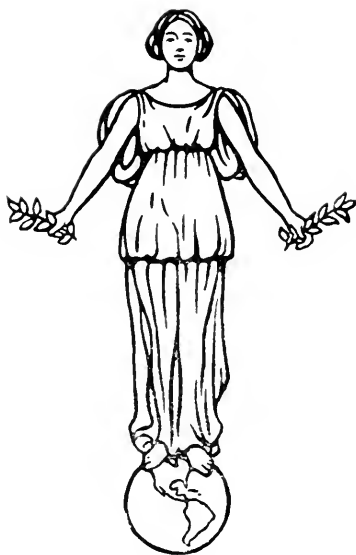


VENEZUELA

The total FOREIGN TRADE of Venezuela for the year 1915 amounted to \$36,874,663, of which \$13,470,236 represented imports, and \$23,404,427 exports. The figures for the preceding year were:

Imports, \$13,987,465; exports, \$21,520,534; total, \$35,507,999. There was, therefore, a decrease in imports of \$517,229, and an increase in exports of \$1,883,893, or a net increase in the foreign trade of \$1,366,664.—There is great activity in the MINING INDUSTRY of the country as evidenced by the fact that the National Congress has recently approved 17 mining concessions granted by the executive power, 7 of which are for mining gold in strata and 10 for mining alluvial gold.—El Nuevo Diario of Caracas announces that a new REVIEW entitled "Venezuela Contemporánea" under the management of Sres. Andrés E. de la Rosa and Gabriel Espinosa has recently been started in the national capital and that some of the best known national writers will be regular contributors to its columns.—Col. José E. Becerra, one of the Venezuelan officials who pursued special courses on military instruction in the schools of Colombia, has been named director of the MILITARY SCHOOL by order of the chief commander of the national army.—The industrial improvement board of the District of Achaguas has begun the construction of a PUBLIC ABATTOIR, financed from the monthly funds allowed by the State government for improvements in that district.—On October 8 last, anniversary of the battle of El Yagual, the new MUNICIPAL BUILDING constructed by the improvement board of Palmarito, District of Paez, was inaugurated with appropriate ceremonies.—In accordance with an executive decree of September 23, organizing the legation of Venezuela in Colombia, the department of foreign relations has named Dr. Demetrio Lossada Dias ENVOY EXTRAORDINARY and minister plenipotentiary to Colombia, and Dr. Diego Bautista Urbaneja First Secretary of Legation. The new Minister has held many important public posts, having been senator and deputy in the National Congress, member of the Venezuelan Society of International Law, delegate from Venezuela to the International Institute of Washington and director of private international law in the Ministry of Foreign Relations.—In a special number of the Official Gazette of September 26 is published the full text, consisting of 3 books and 802 articles, of the CODE OF CIVIL PROCEDURE as decreed by the National Congress and ratified by the President.—A recent presidential decree provides for nine PRIMARY SCHOOLS, five for girls and four for boys, in the school district comprising the States of Trujillo and Zulia.—The management of the FROZEN MEAT CORPORATION of Puerto Cabello has recently inaugurated a new plant with a capacity for handling 300 head of cattle per day. A great impetus has recently been given to the cattle industry of the country and considerable development is expected in utilizing the extensive territory suitable for stock raising.—El Universal of Caracas

announces the early completion of a fine EDUCATIONAL BUILDING which is being constructed in Barquisimeto by the Christian Brothers of the La Salle Institute. The building will have a rooming capacity for more than 200 students, will occupy more than 2 hectares of ground and will be equipped with every modern educational facility.—Carúpano and other neighboring towns have received a complete new equipment for the installation of a new system of TELEPHONES.—Under the management of Sr. J. I. Vallenilla a NEW WEEKLY, called "El Triunfo," is now being published in Maracay.—Upon the initiative of the president of the State of Trujillo, a committee has been organized in the city of the same name to receive popular subscriptions for the erection of a STATUE to perpetuate the memory of the illustrious patriot Dr. Cristóbal de Mendoza, a native of the State of Trujillo and first president of Venezuela.





UNITED STATES REPRESENTATIVES IN THE LATIN AMERICAN REPUBLICS

AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY

Argentine Republic....FREDERIC J. STIMSON, Buenos Aires.
Brazil.....EDWIN V. MORGAN, Rio de Janeiro.
Chile.....JOSEPH H. SHEA, Santiago.¹
Mexico.....HENRY P. FLETCHER, Mexico.¹

ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY

Bolivia.....JOHN D. O'REAR, La Paz.
Colombia.....THADDEUS A. THOMSON, Bogota.
Costa Rica.....EDWARD J. HALE, San Jose.
Cuba.....WILLIAM E. GONZALES, Habana.
Dominican Republic...W. W. RUSSELL, Santo Domingo.
Ecuador.....CHARLES S. HARTMAN, Quito.
Guatemala.....WILLIAM H. LEAVELL, Guatemala City.
Haiti.....A. BAILLY-BLANCHARD, Port au Prince.
Honduras.....JOHN EWING, Tegucigalpa.²
Nicaragua.....BENJAMIN L. JEFFERSON, Managua.
Panama.....WILLIAM J. PRICE, Panama.
Paraguay.....DANIEL F. MOONEY, Asuncion.
Peru.....BENTON McMILLIN, Lima.
Salvador.....BOAZ W. LONG, San Salvador.
Uruguay.....ROBERT E. JEFFERY, Montevideo.
Venezuela.....PRESTON MCGOODWIN, Caracas.

CHARGÉS D'AFFAIRES

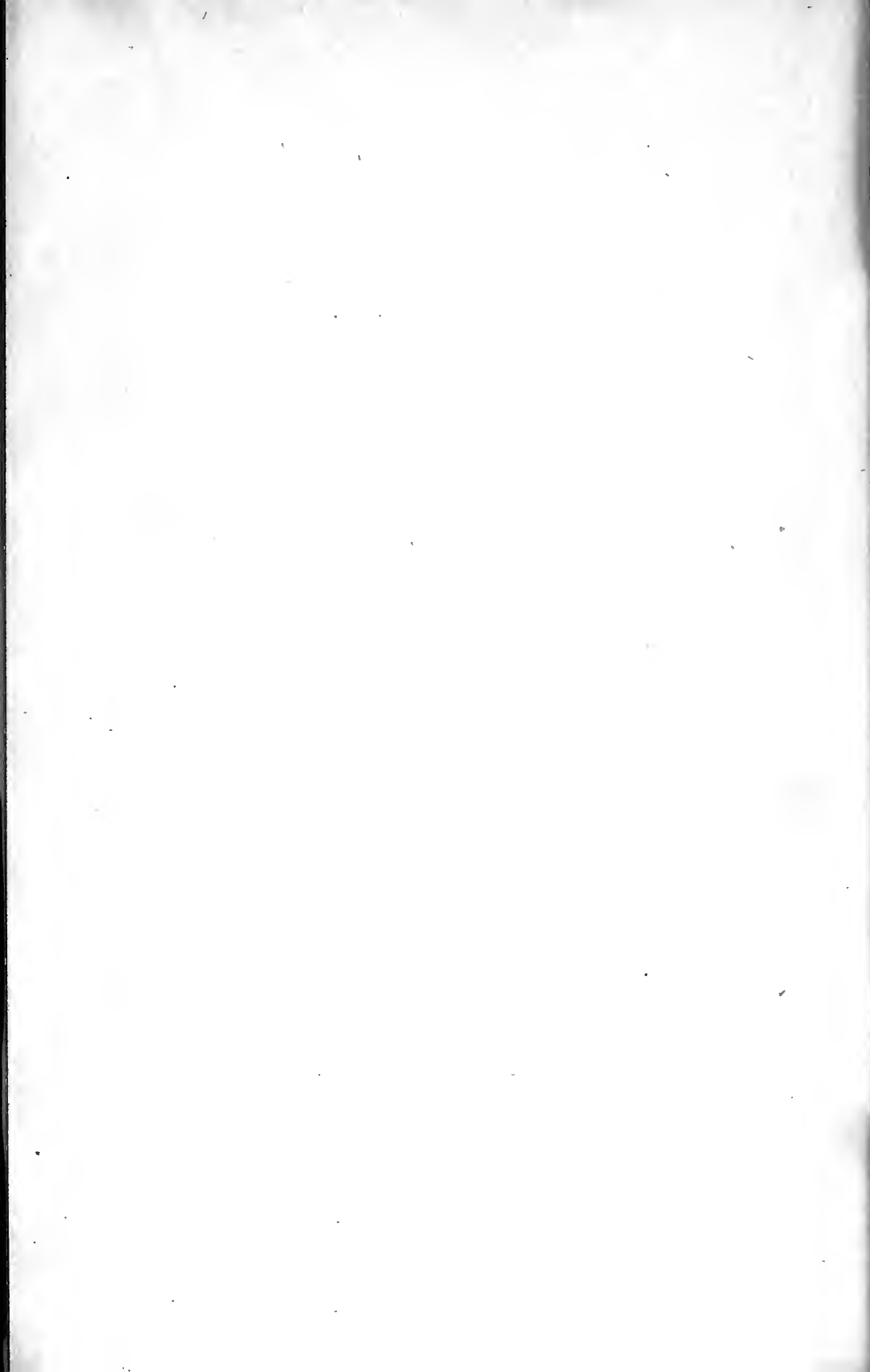
Chile.....GEORGE T. SUMMERLIN, Santiago.
Honduras.....WILLING SPENCER, Tegucigalpa.

¹ Appointed.

² Absent.









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